PME EVALUATION OF THE WUNNUMMIN LAKE FORESTRY OPERATIONS

WUNNIMMIN LAKE, ONTARIO

(INDIAN-ESKIMO AFFAIRS)

CONFIDENTIAL

PME EVALUATION OF THE WUNNUMMIN LAKE FORESTRY OPERATIONS

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(INDIAN-ESKIMO AFFAIRS)

Program Management Evaluators:

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PME No. 3(AA)-1972
November, 1972

I N D E X

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LIST OF APPENDICES

I. INTRODUCTION

1.1 Background

1. One of the objectives of the Forestry Program is to facilitate Indian endeavours to establish, own and operate viable primary extraction enterprises. In order to identify the effectiveness and efficiency of these enterprises, the Director of the Indian-Eskimo Economic Development Branch requested Program Management Evaluation to undertake the evaluation of certain of these forestry operations, including the one located at Wunnummin Lake, Ontario.

2. Wunnummin Lake is located approximately 105 miles northwest of Pickle Lake, Ontario (see Appendix "A"). The Reserve area totals 17,380 acres of which 9,600 acres are forested. The settlement of Wunnummin Lake has a population of 215. A sawmill was established on the Reserve about 12 years ago. It is located on the shore of the Lake approximately one mile from the village.

3. The mill is owned and financed by the Department. In recent years it has been operated and maintained by the Band with some assistance provided by a resident Development Officer from the District. The mill has produced good quality lumber and the bulk of the production has been used on the Reserve. The Band has recently put forth a resolution requesting the Department to turn the sawmill over to the Band for its own use.

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1.2 Scope

1. The purpose of this evaluation was to analyze and assess the existing logging and milling project at Wunnummin Lake in order to establish its efficiency and effectiveness as a basis for future policy planning and decision making. The emphasis has, therefore, been placed on determining the economic viability of the operation and isolating the significant variables restricting maximum output at minimum cost, rather than attempting to optimize output.

2. The Wunnummin Lake Reserve is administered by the Sioux Lookout District and this forestry project was evaluated in conjunction with all other mills located in the Sioux Lookout District. The Team made a detailed visit to Wunnummin Lake on August 24, 1972. During this visit the Team was accompanied by a member of the Regional staff and a District Development Officer who is located at Wunnummin Lake. Information concerning the wood supply was obtained from the Ontario Department of Lands and Forests Offices in Thunder Bay and Sioux Lookout.

3. A standard format prepared by the Laurentian Institute, consisting of a questionnaire and model, has been prepared for the Wunnummin Lake lumbering operation and is attached as Appendix "B" to this report. Some minor modifications have been made to the format due to the lack of certain statistics and the accounting methods carried out at the site of the operations and at the Sioux Lookout District Offices.

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1.3 Acknowledgement

1. The PME Team wishes to acknowledge the assistance provided to it by the Toronto Regional Office, the Sioux Lookout District, the Thunder Bay Regional Offices of the Ontario Ministry of Natural Resources, and the Sioux Lookout District Office of the Ontario Ministry of Natural Resources.

II. DISCUSSION

2.1 Wood Supply

1. An air reconnaissance survey carried out by the Department of Fisheries and Forestries indicates the total forested area of the Reserve to be 9,600 acres, with immature softwood comprising about 80 per cent of this area.

2. The area within a 60 mile radius of the Reserve boundary has not been surveyed, and no forest survey of this area is planned for the near future. There are good stands of spruce in the area which average better than 15 cords per acre in cutting areas. The logs that are being cut average seven inch tops, and approximately 30 logs per M f.b.m. There is also good quality jack pine in the area, but no attempt has been made to use this type of wood. The Band has not been charged a stumpage fee in the past, and this arrangement is expected to continue as long as the Band cuts for its own use.

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3. The Band is presently cutting off the Reserve about 3 miles from the sawmill. Logging is conducted on a seasonal basis, usually in March and April. Six men are normally employed in this operation. The logs are cut close to the shoreline as they must be skidded by hand to the edge of the Lake. They are then towed to the mill site by boat. Detailed cost figures were not available for this operation, but local estimates place the cost at $90.00 per M f.b.m. for logs delivered to the mill site.

4. The annual cut over the past five years is estimated to average 25,000 f.b.m., although the cut for the current year has not reached that average. Spruce has been the main species cut. The lumber cut to date has been almost entirely used on the Reserve. Estimates are that the Band will cut an average of 30,000 f.b.m. per year over the next five years, and that this will meet the Band's total need for lumber. Local surveys indicate that there is sufficient good timber in the immediate area of the Reserve to meet this requirement.

2.2 Administration and Management

1. The objectives of establishing the mill at Wunnummin Lake were to produce local lumber, train Indian people, and to create employment. These objectives are being met.

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2. The mill and associated equipment is owned by the Department. However, at the time of this review the District was considering a Band resolution requesting that the mill be turned over to the Band. For the past few years the sawmill has been operated by the Band, with technical assistance provided on a part-time basis by the resident Development Officer. Under this arrangement the mill has continued to be well maintained and the quality of the lumber produced has been good. Production and cost control records have not been maintained and such data is missing or incomplete. It is, therefore, difficult to evaluate the total competency of the local management. However, based on past performance, it is considered adequate to operate a small mill of this size that produces lumber for the Band's requirement, provided that technical assistance can be made available on an as required basis.

3. There is a good supply of experienced local labour that has been developed over the time the mill has been in operation. Wages have been traditionally low and there has never been an incentive plan to motivate labour towards higher production.

2.3 Facilities

1. The sawmill is located on a cleared site about three acres in size (see Appendix "C"). The logs are skidded up from the shore of the Lake and man-handled to the mill carriage by hand.

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2. The sawmill consists of a light carriage and a 48 inch saw. Power for the mill is provided by a six cylinder Continental motor, rated at 100 hp. The equipment is in good condition. The power unit is protected by a shed and a roof has been erected over the carriage and saw. The equipment includes a small J.O.S. portable planer. This planer is an older model, but still serves a very useful purpose. It is powered by a small Band owned tractor. The current value of the mill is estimated at $2,500.00.

3. Production has averaged about 25,000 f.b.m. a year over the past five years with an average daily production figure for the mill of 2,500 f.b.m., and about 2,000 f.b.m. for the planer. On the average, six men have been employed on the sawing and planing operations for a period of one month each year. These operations are normally carried out in June. The quality of the lumber produced by the mill is good, and it is used in house construction on the Reserve, as well as for other uses.

2.4 Markets

1. The total production of the sawmill over the past five years, with the exception of a small amount shipped out last year, has been used on the Reserve. The mill was capable of meeting the lumber required for the construction of new houses here this year, so that it was not necessary to bring standard lumber in from outside.

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2. Future plans call for the construction of three new houses each year for the next five years. This will generate a market of approximately 25,000 f.b.m. per year. In addition a further 5,000 f.b.m. will be required on the Reserve for other construction, so that a total annual market of 30,000 f.b.m. is anticipated for the next five years. The cost of the equivalent type of lumber flown in from Pickle Lake, Ontario, is estimated at $300.00 per M f.b.m.

3. The community of Wunnummin is isolated, and neighbouring communities have their own sawmills, so that no off-reserve market for lumber is expected in the near future, although the Band has expressed interest in supplying lumber to Kassabonika and Trout Lake.

2.5 Finance

1. Although the sawmill had been in operation in 1972, the Team was not able to obtain detailed production records. From the best records available, it is estimated that a cut of 20,000 f.b.m. had been made by August 1972. The cost records maintained at the District office have been compiled, but there is some doubt as to the accuracy of these records as the forestry operations are sometimes funded from more than one source, or charged to some other coding.

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2. A break even chart for the 1972 operations has been drawn up and is attached as Appendix "D". This chart is based on the best data available, but no degree of accuracy can be claimed for it as estimates and assumpations were made in supporting data.

3. The chart, however, does indicate that the 1972 operation was a viable one, and that the break even point was between 3,000 and 4,000 f.b.m.

III. CONCLUSIONS

1. It is concluded that:

   (a) there is sufficient good timber in the immediate area of Wunnummin Lake to adequately supply the forestry operations there for the next five years, and that this timber is available at no cost to the Band;

   (b) local management is capable of operating the sawmill, provided that technical and management advice can be made available on an as required basis;

   (c) there is a good supply of labour trained to the semi-skilled level in forestry operations;

   (d) the equipment is in good condition, and capable of producing sufficient lumber to meet the needs of the community;

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(e) an annual market for 30,000 f.b.m. exists and that the forestry operations are capable of meeting this demand.

IV. RECOMMENDATIONS

1. It is recommended that:

(a) the mill should be retained at its present level and turned over to the Band, and continue to cut for Band use;

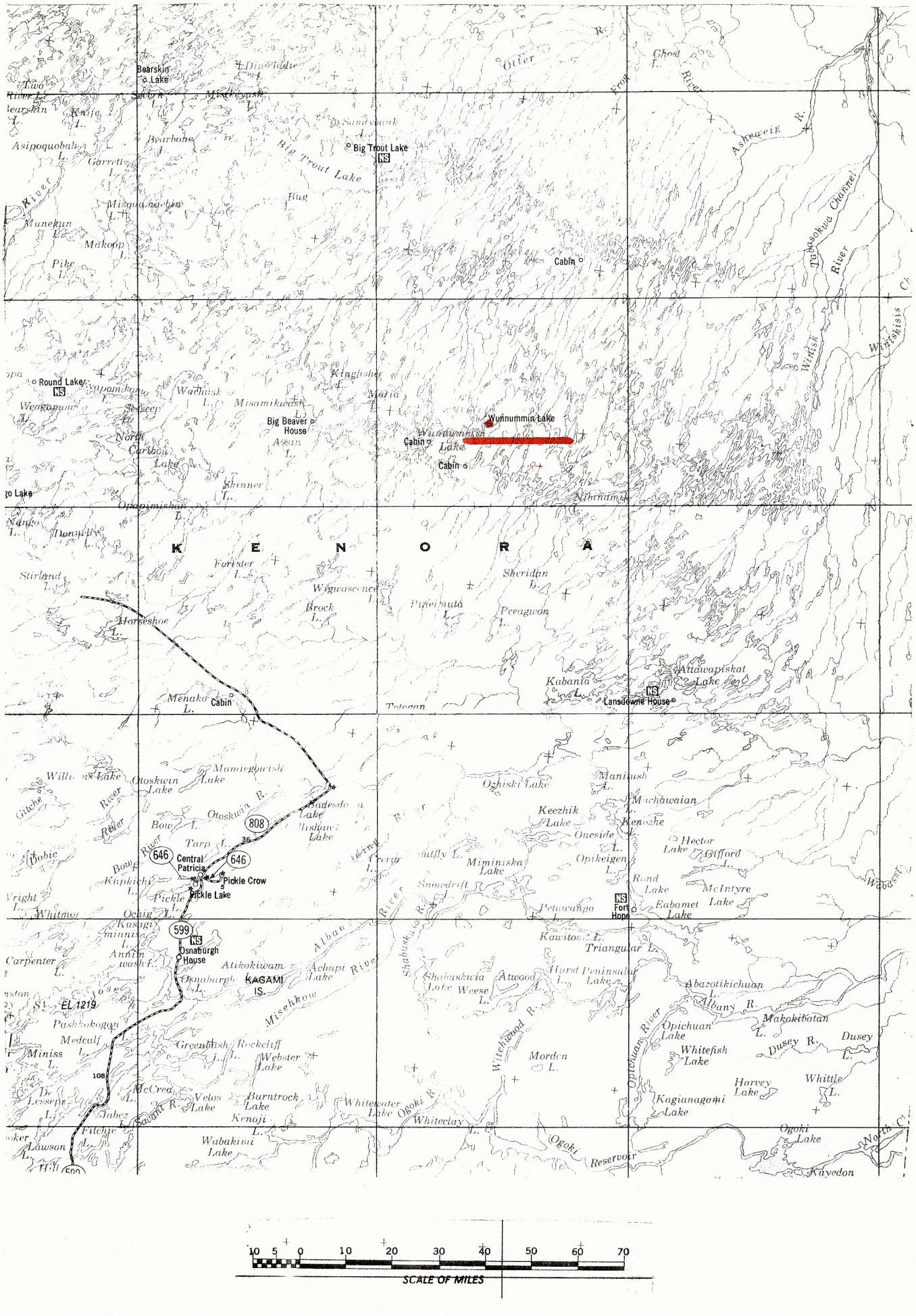
(b) the first year of operation under Band ownership be financed by the Department on either a loan or a grant basis;

(c) the lumber required for the construction of Indian housing on the Reserve be obtained from the mill provided the lumber is of suitable size, quality and grade;

(d) all transfer of lumber to either the Department or individuals be made on a sales basis;

(e) cost and production accounts be maintained for all transactions relating to the forestry operations.

APPENDIX "A"


Bearskin Lake
Big Trout Lake
Cabin
Round Lake
Wunnummin Lake
Big Beaver House
Cabin
Cabin
K E N O R A
Menako Cabin
Lansdowne House
Central Patricia
Pickle Crow
Pickle Lake
Osnaburgh House
KAGAMI IS.
Fort Hope
808
646
646
599
EL 1219
108
SCALE OF MILES
10 5 0 10 20 30 40 50 60 70

APPENDIX "B"

WUNNUMMIN, ONTARIO

QUESTIONNAIRE AND MODEL TO ASSESS ECONOMIC VIABILITY OF DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT'S OWNED AND/OR OPERATED FOREST ENTERPRISES

ECONOMIC VIABILITY OF DEPARTMENT OF INDIAN AFFAIRS
AND NORTHERN DEVELOPMENT'S OWNED
AND/OR OPERATED FOREST ENTERPRISES

TOTAL RESERVE AREA -- 17,380 ACRES

I. WOOD SUPPLY (POTENTIAL)

1. On-Reserve

(a) Total forested area ..... *9,559* acres

(b) Total accessible forested area ..... *9,559* acres

(c) Forest distribution (acres)

Cover Type	Mature Acres	Immature Acres	Young Acres	Total
Softwood	*471*	*6,952*		*7,423*
Mixedwood	*348*	*1,738*		*2,086*
Hardwood				
Total	*819*	*8,690*		*9,509*

(d) Species composition -- percentage estimates from mill run if inventory not available.

Black Spruce ..... } White Spruce ..... }	*60 %*
Jack Pine	*15 %*
Balsam Fir	*1 %*
White Poplar	*15 %*
Black Poplar	*3 %*
White Birch	*6 %*
	100 %

(e) Cords per acre: estimates using forest distribution table in (c).

Cover Type	*Mature Acres*	*Immature Acres*	*Young Acres*
Softwood	*Not available by age distribution*		
Mixedwood			
Hardwood			
Average	*Overall*	*13 cords per acre*	

(f)

	White & Black Spruce	Jack Pine	White Poplar
Age at Maturity	*130*	*100*	*80*
Height at Maturity	*55-60*	*55*	*55*
Mean Annual Increment, cu.ft./acre	*Less than 15 cu.ft. per acre (softwood)*		

(g) Estimate in acres any significant losses due to fire, insects, blowdown, etc. and the year of occurrence.

-- *Information not recorded*

(h) Estimate annual cut in past 5 years.

-- *Not recorded*

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(i) Estimate annual cut for next 5 years.

-- *None significant*

2. Off-Reserve (information based on the average square mile)

(a) Ownership -- Crown ..... *ALL* square miles

-- Private ..... *NIL* square miles

-- Water *30%*

(b) Is there a possibility of obtaining cutting rights, and if so, what would be the contractual basis?

-- *Yes - Ontario Provincial Government -- short term timber lease.*

(c) Total forested area.

-- *60% productive; 10% non-productive (muskeg, brush, rock, etc.)*

(d) Total accessible forested area.

-- *Only forest area accessible to Reserve by water*

(e) Forest distribution (acres)

Cover Type	Mature Acres	Immature Acres	Young Acres	Average Sq. Miles
Softwood	*Not available by acreage dis-*			*60%*
Mixedwood	*tribution. Estimated by average*			*25%*
Hardwood	*mile of which 60% is productive*			*15%*
Total				*100%*

(Note: Reserve cuts only mature spruce.)

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(f) Species composition -- percentage estimates from mill run if inventory not available.

Black Spruce	60 %
White Spruce	
Jack Pine	15 %
Balsam Fir	1 %
White Poplar	15 %
Black Poplar	3 %
White Birch	6 %
	100 %

(g) Cords per acre: estimates using forest distribution table in (e).

Cover Type	*Mature Acres*	*Immature Acres*	*Young Acres*	*Average Net Merchantable Cords Per Productive Acre*
Softwood				13
Mixedwood		*Not Available by Age Distribution*		13
Hardwood				13
Average				13

(h)

	Black & White Spruce	Jack Pine	Poplar
Age at Maturity	130	100	80
Height at Maturity	55-60	55	55
Mean Annual Increment, cu.ft./acre	*Less than 15 cu.ft. per acre (softwoods)*		

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(i) Estimate in acres any significant losses due to fire, insects, blowdown, etc. and the year of occurrence.

-- *No Records Kept*

(j) Estimate annual cut in past five years.

-- *Returns from Reserve too inaccurate for proper analysis: in 1971 Wunnummin cut 25,000 f.b.m.*

(k) Estimate annual cut for next five years.

-- *25,000 f.b.m.*

II. FOREST MANAGEMENT (ON-RESERVE)

1. Inventories & Plans

	Completed		In Process	
	Yes	No	Yes	No
(a) Photo - reconnaissance	Yr. Completed	*XX*	Yr. to be Completed	
(b) Survey - with field work		*XX*		
(c) Management plans and/or recommendations		*XX*		
(d) Operating plans		*XX*		
(e) Sponsoring Agency				

Fed. Govt. _____ Prov. Govt. _____ Band _____ Private _____

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2. Silviculture -- past five years

(a)

Treatments	Acres Treated	Species Involved	Age Trees	Year Treated	Objectives of Treatment	Est. Cost Per Acre
Seeding						
Planting						
Cleaning						
Thinning		- - - - *N I L* - - - -				
Pruning						
Fertilization						
Other -- specify						

(b) Sponsoring Agency

Fed. Govt. _____ Prov. Govt. _____ Private _____ Band _____

(c) Are treatments required on the reserve at the present time?

-- *N/A*

(d) If so, what are the priorities?

-- *N/A*

(e) If so, what is the purpose of this treatment?

-- *N/A*

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(f) Are there any treatments schedules for the next five years? If so, fill out table as in (a).

-- *NO*

Treatments	Acres Treated	Species Involved	Age Trees	Year Treated	Objectives of Treatment	Est. Cost Per Acre
Seeding						
Planting						
Cleaning						
Thinning						
Pruning						
Fertilization						
Other -- specify						

(g) In your opinion, what sectors of a forest management plan should receive short term priority?

i) Growing Stock: *(LAST PRIORITY)*

protection ..... _____

regulation ..... _____

silviculture ..... _____

ii) Transportation: *(SECOND PRIORITY)*

road development ..... _____

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iii) Markets: *(FIRST PRIORITY)*

product research ..... _____

promotion advertising ..... _____

iv) Other:

please elaborate ..... _____

III. WOOD PROCUREMENT

1. Questions

(a) Where is the wood being cut at the present time?

-- On-reserve _____ distance from point of sale*

_____ miles.

-- Off-reserve *XX* distance from point of sale*

3 miles.

(b) If wood is extracted from off of the reserve, what arrangements regarding cutting rights have been made with the owners and who are the owners? What are the terms of the contract in respect of:

-- *FREE - Ontario Government*

Stumpage fees ..... *NIL* per annum

Tenure (length contract) ..... *N/A* years

Date commenced ..... _____ mo./yr.

Date to be terminated ..... _____ mo./yr.

Renewable options - elaborate .... _____

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* If wood utilized on reserve, distance will be to mill site.

(c) Is the current operation conducted on a seasonal basis?

-- *Yes - March, April*

(d) What has been the average number of months in operation over the past five years?

-- *Two*

(e) Do you think that the operation could be improved by further mechanization or modernization?

-- *Yes - Some means of hauling logs from cutting area to the water would improve the operation.*

(f) If yes, what type of changes would you recommend?

-- *Non at the present time due to the small market*

(g) How would you expect this to affect employment and production?

-- *N/A*

(h) What in your opinion are the most significant variables working against minimizing production costs on this operation?

Check below: --

Labour:

i) Skill level - low ..... _____

- medium ..... *XX*

- high ..... _____

ii) Low wages or rates ..... _____

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iii) Lack of motivation ..... _____

iv) Unavailable on a continuous basis _____

v) Other - specify ..... _____

Management:

i) No or poor leadership ..... _____

ii) No incentives given to labour ... _____

iii) No training provided XX

iv) No cost control XX

v) No production control XX

vi) Other - specify ..... _____

Equipment:

i) Antiquated equipment thus high maintenance costs and low productivity ..... _____

ii) Non-integrated system XX

Logging Chance:

i) Terrain ..... _____

ii) Small Wood ..... _____

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iii) Bad environment - specify ..... _____

iv) High transportation cost ..... _____

v) Other - specify ..... *GOOD LOGGING CHANCE*

(i) What is your estimate of the potential output per month if the two most significant constraints were eliminated?

-- *50,000 f.b.m.*

(j) Is it feasible to eliminate these constraints?

-- *Yes*

(k) If so, what should be done and what would be the approximate cost?

-- *The management will improve with time, experience, and training.*

(l) Estimate how this would affect production, operating costs, and employment.

-- *Increase production and lower costs.*

IV. WOOD PROCESSING

(a) Where is the wood being acquired for the mill at present?

-- On-reserve ..... _____ %

-- Off-reserve ..... *100* %

(b) If the wood is acquired off the reserve, from whom is it purchased and at what price?

-- *FREE - Crown Land*

(c) Is the present operation conducted on a seasonal basis? Specify months in operation.

-- *Yes - summer - one month*

(d) What is the average number of months worked per annum?

-- *One*

(e) Do you think that the operation could be improved by further mechanization or modernization?

-- *No - not for the small cut that is planned.*

(f) If yes, what type of changes would you recommend?

-- *N/A*

(g) How would you expect these changes to affect employment and production?

-- *N/A*

(h) What in your opinion are the most significant variables working against minimizing production costs on this operation?

Check below: --

Labour:

i) Skill level - low ..... _____

- medium XX

- high ..... _____

ii) Low wages or rates ..... _____

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iii) Lack of motivation ..... _____

iv) Unavailable on a continuous basis .. _____

v) Other ..... _____

Management:

i) No or poor leadership ..... _____

ii) No incentives given to labour ..... _____

iii) No training provided XX

iv) No cost control XX

v) No production control XX

vi) Other ..... _____

Equipment:

i) Antiquated equipment thus high maintenance costs and frequent downtime ..... _____

ii) Non-integrated system XX

iii) Other ..... _____

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Sawing Chance:

i) Large wood ..... _____

ii) Small wood ..... _____

iii) Bad environment - specify ..... _____

iv) Other ..... _____

(i) What is your estimate of the potential output per month if the two most significant constraints were eliminated?

-- *60,000 f.b.m.*

(j) Is it feasible to eliminate these constraints?

-- *Yes*

(k) If so, what should be done and what would be the approximate cost?

-- *Management will improve with experience and training.*

(l) Estimate how this would affect production, operating costs, and employment.

--

(m) What do you think or understand were the objectives of setting up the operation in the first place?

-- *(a) provide a source of local lumber*
(b) train Indian people.

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(n) Do you think these objectives are good or sound objectives?

-- *Yes*

(o) If no, what do you think the objectives should be?

-- *N/A*

(p) If yes, do you think that the objectives are being met?

-- *Yes*

(q) Are there other opportunities which would employ as many or more people at the same level of capital investment? Please elaborate.

-- *No, all other opportunities are being exploited.*

(r) Do you think that the current operation or investment represents the best opportunity in lieu of the benefits (monetary and social) received by the people involved?

-- *Yes*

(s) If answer to (r) is yes, what improvements could be made in the current operation? Please elaborate.

-- *Turn the mill over to the Band and purchase future requirements from it on a cash basis*

(t) If answer to (r) is no, what alternate investment would you recommend?

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V. QUESTIONS CONCERNING THE PRODUCTION MANAGEMENT VARIABLE

(a) How is the present operation organized?

i) cooperative ..... _____

ii) partnership ..... _____

iii) government supervision - yes ..... *Government owned and financed, Band managed and operated with minimum govt. supervision*
(specify who and sources of funding) - no ..... _____

iv) entrepreneurial (people working for and paid by a leader other than a government official) ..... _____

v) other (specify) ..... _____

(b) What are the motives of present management?

i) maximize profits ..... _____

ii) supply domestic needs ..... *XX*

iii) employ as many people as possible ... *XX*

iv) training ..... *XX*

v) supply open market ..... _____

VI. MARKETING

(a) What per cent of total production (annual) is sold off the reserve?

-- *NIL*

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(b) To whom is this sold and at what price per 1,000 f.b.m.?

-- *N/A*

(c) Do you anticipate a potential (next five years) market off the reserve?

-- *NO*

(d) If answer to (c) is yes, where and at what price per cord or M f.b.m.?

-- *N/A*

(e) Who are or would be competitors?

-- *Other settlements in District.*

(f) Can the proposed operation compete without government subsidization?

-- *NO*

(g) If no, list main reasons why it cannot compete.

-- *Government is the only customer.*

(h) Are there institutional constraints restricting sales off the reserve? If yes, please specify.

-- *NO*

(i) Do you think local industry would guarantee purchases of wood or timber on an annual or monthly basis?

-- *NO*

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(j) What are the estimated requirements for wood?

	Volume (f.b.m.)	
	1971-72	1973-75
i) Local (reserve or settlements)		
houses	*20,000*	*25,000*
docks, fishing camps, other	*5,000*	*5,000*
ii) Other Government Agencies		
education - schools health and welfare -- hospitals other		*NIL*
iii) Export (off-reserve)		
industry - mines - mills - tourists consumer - briquettes, decorations		*NIL*
Total five year requirements - volume (f.b.m.)		*150,000*
Total value of requirements (estimated)		*$45,000.00*

The following questions relate to marketing management.

(a) Has there been any attempt to market the product via advertising, promotion or other commercial media?

-- *NO*

(b) If yes, what are the approximate costs?

-- *N/A*

(c) In your opinion, has this promotion been effective?

-- *N/A*

GENERAL INFORMATION

The purpose of this section is to yield information on the physical and cultural setting within which the forestry operation exists.

1. Area Name: *WUNNUMMIN LAKE*

2. Agency: *SIOUX LOOKOUT DISTRICT*

3. Total Area: *17,280 ACRES*

4. Population: *215*

5. Number of Family Units: *30*

6. Number Children Per Family: *5*

7. Labour Force: *45*

8. Ethnic Origin: *CREE*

9. Net Income Per Family: *$1,800.00 LESS WELFARE*

10. Net Welfare Income Per Family: *$1,800.00*

11. List the present area of employment: *FISHING, TRAPPING, GOVERNMENT EMPLOYMENT*

12. List the potential areas of employment: *TOURISM, GUIDING*

13. What are the more significant problems of the Band: elaborate:

-- *ISOLATION* -- *SOCIAL* -- *EDUCATION.*

WUNNUMMIN LAKE, ONTARIO
SAWMILL

View of Mill from Lake Shore

Small Portable Planer

Feedway to Carriage

Logs Ready for Sawing

WUNNUMMIN LAKE, ONTARIO
FORESTRY OPERATIONS

VARIABLE COSTS

	Wages	$ 2,353.00	
**	Purchase of Logs	1,800.00	
	Gas and Oil	375.30	
	Total Variable Costs		$ 4,528.30

FIXED COSTS

	Depreciation of Plant ($2,500 X 10%)	$ 250.00	
	Total Fixed Costs		$ 250.00
	TOTAL COSTS		$ 4,778.30

** Production = 20,000 f.b.m.

Average cost per M f.b.m. = $\frac{4778}{20}$ = $238.00

Estimated Selling Price Per M dressed = $300.00

** Best estimate.

WUNNUMMIN LAKE, ONTARIO

FORESTRY OPERATIONS

BREAK EVEN CHART