1972

**Contribution of a small forest industry to the Rocky Boy's Indian Reservation**

Henry W. Kipp  
*The University of Montana*

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UMI®
CONTRIBUTION OF A SMALL FOREST INDUSTRY
TO THE ROCKY BOY'S INDIAN RESERVATION

By
Henry W. Kipp
B.A., Trinity College, 1954
B.S., University of Idaho, 1960

Presented in partial fulfillment of the requirements for the degree of
Master of Resources Administration
UNIVERSITY OF MONTANA
1972

Approved by:

[Signatures]

Chairman, Board of Examiners
Dean, Graduate School
Date June 2, 1972
ACKNOWLEDGEMENTS

Without the kind cooperation of former colleagues, Mr. Russell E. Estes of Bozeman, Montana and Mr. Kenneth Wornath of Lolo, Montana, preparation of this professional paper would have been practically impossible. I express my gratitude to each for making available documents and letters relating to the Rocky Boy's Reservation industrial development project.

Many thanks are in order to the graduate committee members, especially to Dean Arnold Bolle, Professor Leo Cummins and Professor Richard Shannon. Their patience and suggestions contributed greatly to acquisition of style and technical writing skills.

Last but not least, I recognize humbly that my wife, Elaine, made possible an opportunity for graduate education through her professional employment with the Missoula City County Library. Mrs. Ann Melton devoted many hours to typing and assemblage, for which I am deeply grateful.
### TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I. INTRODUCTION</strong></td>
<td>1</td>
</tr>
<tr>
<td>Introduction and Goals</td>
<td></td>
</tr>
<tr>
<td>An Interagency Task Force</td>
<td></td>
</tr>
<tr>
<td><strong>II. FEASIBILITY STUDY</strong></td>
<td>4</td>
</tr>
<tr>
<td>The Forest Resource</td>
<td></td>
</tr>
<tr>
<td>Analysis of Costs and Returns</td>
<td></td>
</tr>
<tr>
<td>Period of Operation</td>
<td></td>
</tr>
<tr>
<td><strong>III. MANAGEMENT REQUIREMENTS</strong></td>
<td>9</td>
</tr>
<tr>
<td>Search for a Management Contractor</td>
<td></td>
</tr>
<tr>
<td>Evaluating an Efficient Sawmill</td>
<td></td>
</tr>
<tr>
<td>Drafting a Forest Development Agreement</td>
<td></td>
</tr>
<tr>
<td><strong>IV. THE INDUSTRY</strong></td>
<td>15</td>
</tr>
<tr>
<td>An Alternative Forest Development Program</td>
<td></td>
</tr>
<tr>
<td>Office of Economic Opportunity Funding</td>
<td></td>
</tr>
<tr>
<td>Investment by the Contractor</td>
<td></td>
</tr>
<tr>
<td>Contract for Harvesting Forest Products</td>
<td></td>
</tr>
<tr>
<td>Manpower Requirements for Forest Development</td>
<td></td>
</tr>
<tr>
<td><strong>V. TIMBER SALE ADMINISTRATION</strong></td>
<td>21</td>
</tr>
<tr>
<td>Role of the Bureau of Indian Affairs</td>
<td></td>
</tr>
<tr>
<td>Striving for Improved Logging Production</td>
<td></td>
</tr>
<tr>
<td>Accomplishment of Objectives</td>
<td></td>
</tr>
<tr>
<td><strong>VI. SOCIOECONOMIC IMPACT</strong></td>
<td>27</td>
</tr>
<tr>
<td>Tribal Attitudes</td>
<td></td>
</tr>
<tr>
<td>Income to the Chippewa-Cree Tribe</td>
<td></td>
</tr>
<tr>
<td>Wornath Company Earnings</td>
<td></td>
</tr>
<tr>
<td>Multiple-Use Considerations</td>
<td></td>
</tr>
</tbody>
</table>
LIST OF TABLES

Table                      Page
1. Schedule                 42
2. Management Contract - Contacts and Responses . 43
3. Contract Period and Organization          44
4. Definition of Symbols                  45
5. Typical Equipment Costs          46
6. Estimated Equipment Costs         47
7. Examples of Computer Output of Breakeven Point Collections    48
8. Breakeven Selling Price for Selected Operating Modes       49
9. Graph of Breakeven Selling Price Versus Initial Investment      53
10. Graph of Profit versus Initial Investment       54
11. Planning Schedule for Proposed Sawmill Expansion        55
12. Proposed Budget - Rocky Boy's Sawmill Project         56
13. Cash Disbursement for Rocky Boy's Sawmill     58
# LIST OF ILLUSTRATIONS

<table>
<thead>
<tr>
<th>Document or Figure</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Letter from Assistant Area Director to</td>
<td>60</td>
</tr>
<tr>
<td>Mr. Russell E. Estes</td>
<td></td>
</tr>
<tr>
<td>2. Report of June 1st meeting - Rocky Boy's Sawmill</td>
<td>61</td>
</tr>
<tr>
<td>3. Area Staff Officer's Report, December 2, 1969</td>
<td>68</td>
</tr>
<tr>
<td>4. Timber Cutting Permit for Use by Organized Tribes</td>
<td>70</td>
</tr>
<tr>
<td>No. 70-6</td>
<td></td>
</tr>
<tr>
<td>5. Map of timber cutting areas in Green Creek, Rocky Boy's Reservation</td>
<td>71</td>
</tr>
<tr>
<td>6. Letter to Mr. Kenneth Wornath from Henry W. Kipp,</td>
<td>72</td>
</tr>
<tr>
<td>Natural Resources Specialist, Rocky Boy's Agency</td>
<td></td>
</tr>
<tr>
<td>7. Rocky Boy's Forest Development Agreement</td>
<td>73</td>
</tr>
</tbody>
</table>
Introduction and Goals

Rocky Boy's Indian Reservation exhibits many characteristics of an underdeveloped, emerging nation. Located in the Bearpaw Mountains of northcentral Montana, the reservation land base of 107,613 acres supports a resident population of 1,250 persons. Average annual family income approaches $2,200, a figure well below that assigned as poverty level by the United States Department of Commerce. Current employment information indicates a labor force of 433, of which 102 have full time, 68 part time and 263 no employment.¹ For the fortunate minority engaged in full time livestock operations, dry farming, service professions, governmental and educational occupations, family stability and solid community betterment is the rule. For others less fortunate, welfare appears as a recurring, frustrating life style with little provision for self-improvement.

Tribal concern for quality education, resident employment opportunity, and improved vocational training continues to manifest itself in

the struggle for accelerated economic development. Enlistment of assistance from various federal agencies, including the Bureau of Indian Affairs, in coping with their socio-economic disadvantaged position is increasingly effective. Lacking an industrial base, the Chippewa-Cree tribe has looked towards encouragement of a local forest products firm as paramount in expanding employment, and encouraging quality forest management.

An Interagency Task Force

Transition of the tribal economy from purely agriculture to agro-industrial employment made rapid progress during the 1969-1970 period. Beginning in January of 1969, tribal-federal-state interagency cooperation overcame many serious obstacles to establishing a forest products industry on the Rocky Boy's Reservation. Analysis of interaction process and planning efforts resulting from negotiations between the Economic Development Administration, Small Business Administration, Montana State University Center for Industrial Development and Management Services, Office of Economic Opportunity, various interested forest industries, the Chippewa-Cree Tribal Business Committee, Community Action Program and the Bureau of Indian Affairs has constituted a major task of this paper. Formation of a successful logging-milling operation in a forested region remote from major forest industry in the Northern Rocky Mountains presented a challenge to all members of this task force. Providing insight to tracing various internal organization strengths and weaknesses of the newly established sawmill, while relating their influence upon local community development, constituted the second major goal.
Providing insight to professional foresters and others engaged in comprehensive natural resources development was the third major objective.

Industrial progress on all Montana Indian Reservations occurs because, not in spite of, cooperation at an interagency task force-tribal government level. Documentation of this phenomena should bring home to the reader a dramatic tableau of attitudinal changes within a tribal society in Montana. Future planning efforts may materialize more efficiently as a result of individuals understanding various pitfalls of industrial progress on a Montana Indian Reservation.
CHAPTER II

FEASIBILITY STUDY

The Forest Resource

One of the major considerations in attracting a forest products industry relates to supply of raw materials. For many years, little was known concerning timber volume and age classes on the Rocky Boy's Indian Reservation. One of the first questions asked the resident Bureau of Indian Affairs Resources Specialist focused upon how long a period of harvesting the reservation forest could be sustained without damage to the resource. In cooperation with the Billings Area forestry staff, Mr. Henry Kipp, a professional forester stationed on the Rocky Boy's reservation, commenced to compile timber resources data from existing inventory information. Fortunately, descriptions of timber stand types by acreages had been recently evaluated for Chouteau County, Montana. This information, obtained from Fort Benton, was transmitted to Billings for use by the Center for Industrial Development at Bozeman, Montana.²

K. B. Woods, a Portland, Oregon Consulting firm, compiled an inventory of Wind River, Blackfeet and Rocky Boy's Reservation forests in 1964. Coordinated through the Bureau of Indian Affairs (B. I. A.) Forestry headquarters in Washington, D. C., the forest inventory placed Rocky Boy's

Reservation gross timber volume at approximately 56,000,000 board feet. Volumes for hardwoods, lodgepole pine, Douglas fir, ponderosa pine and mixed (Douglas fir - lodgepole pine) timber types, also compiled, became available for prospective forest industries interested in locating upon the reservation. In addition, a number of growth plots were established on the forest, using General Land Office section and quarter corners as reference points. Average annual growth of the entire forest was scheduled for reinventory in 1973. Estimated at four per cent, such mean annual growth contributed to a timber stand volume approaching 75,000,000 board feet in 1970. Such data formed the basis for calculating an annual allowable timber harvest over a known period of time. Using this information, the Bureau of Indian Affairs estimated an annual cut of 3,000,000 board feet on reservation and 2,000,000 board feet from forest ownerships outside the reservation boundary.

Periodic sustained yield, the yield that a forest can produce continuously at a given intensity of management over a given period of time,\(^3\) for a 10 year operation would sufficiently amortize costs of a sawmill operation. Amounting to 30,000,000 board feet from reservation timberland, and 20,000,000 board feet outside the reservation, such a harvest would remove approximately 42 per cent of the total commercial forest. Selection cutting, in which trees are removed individually, here and

there from a large area each year,\textsuperscript{4} represented a silvicultural practice planned for Douglas fir - ponderosa pine types. Harvest by the clear-cutting system,\textsuperscript{5} a silvicultural method in which timber from blocks within a forest is completely harvested leaving zones of standing timber between blocks for reseeding purposes, was planned for the even-aged stands in the lodgepole pine type. An overrun, or amount of processed lumber volume in excess of estimated log scale volume, was placed at 15-25 per cent for the entire cutting period, based upon defect and upon medium average size of timber to be harvested. Aerial photography, completed as part of the K. B. Woods inventory, played a vital role in selection of mature timber areas to be designated for initial logging practices under B. I. A. timber sale contracts.

Combined with an off-reservation timber supply of 80,000,000 board feet located in Hill and Chouteau counties, reservation timber supply data was forwarded to members of the task force by March, 1969. Access to non-Indian timber through options and contracts with the State of Montana on school sections and with private landowners constituted an integral part of timber supply planning, highly important to stabilization of the proposed reservation forest industry.

Analysis of Costs and Returns

Distributed on March 26, 1969, a Preliminary Feasibility Study of Rocky Boy's Sawmill Operation applied timber supply figures to expected

\begin{footnotes}
\item[4] Ibid., p. 233.
\item[5] Ibid., p. 47.
\end{footnotes}
costs and returns. An analysis of operations was made by considering break-even selling prices of forest products and expected profits. Mr. Russell Estes, in this report, determined break-even selling price as a function of initial investment, operating costs, operation period, and production yield (percent of processed product marketable). In calculating the expected profit, both selling price and variable costs were assumed to vary as a function of the initial investment. By evaluating price figures on equipment and mill plant installation required for several levels of industrial production over differing operating periods, the Montana State University data processing center devised a schedule of break-even selling prices. Such data presented what an operator would need to realize per thousand board feet of lumber sales in order to equalize investment costs and proved to be a giant stride forward in the planning process. With receipt of such information, a team consisting of the Billings Area Forester (B.I.A.), Mr. Estes and Leo Cummins of the School of Forestry, University of Montana, was now ready to begin scouting for an optimum sawmill facility.

Period of Operation

In the conclusions section of the feasibility report, Mr. Russell Estes initially advocated a five-year operating period and capital investment of $340,000. Distributed between management salaries, working capital, and equipment with sums of approximately $100,000, $60,000 and

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$180,000 respectively, the investment level would maximize profit and salvage value of the equipment.\textsuperscript{7} Bureau of Indian Affairs and Chippewa-Cree tribal representatives rejected a 5-year operating period, declaring that economic stability would result from longer periods of mill production. Employment, not profit maximization, gained greater emphasis in subsequent conferences. Timber volume supply guaranteed a potentially profitable small forest products plant under a periodic sustained yield timber harvest schedule of 10 - 15 years.

Furthermore, 25 man years of labor, resulting from logging and milling employment, would share a $150,000 annual payroll during the projected harvest period. This benefit, added to an annual stumpage income of approximately $75,000, later occupied a paramount position in deliberations of the Chippewa-Cree Tribal Business Committee with the Rocky Boy's forest industry task force.

\textsuperscript{7}Ibid., p. 5.
Search for a Management Contractor

Managerial talent among resident tribal membership appeared nonexistent in 1969. Realizing this problem, Mr. Henry Kipp suggested to Mr. Estes, Joseph DeMontiney, Paul Eagleman and George Sutherland, a series of visits to forest products firms in western Montana for possible management talent. Pack River Lumber Company, the Dupuis Brothers Lumber Company of Polson, Montana, Intermountain Company and Montana Lumber Sales of Missoula, Danielson Brothers and Plum Creek Lumber Company of Pablo were mentioned as sound, experienced firms.

On May 28, 1969, the Center for Industrial Development Director, Mr. Russell Estes, submitted three prospective forest products firms for consideration as management contractors. Chippewa-Cree Tribal officials and Bureau of Indian Affairs resources staff evaluated the available equipment, managerial depth, financial resources, training opportunities, and the marketing outlet alternatives of the VKV Lumber Company of White Sulphur Springs; Montana Lumber Sales of Missoula and the Carl Danielson Lumber Company of Pablo, Montana.

8U. S. Department of Interior, Bureau of Indian Affairs, Report of Proceedings of Industrial Development meeting from Rocky Boy's Agency Natural Resources Specialist to Billings area office (Box Elder, Montana: March 22, 1969).
Evaluating an Efficient Sawmill

Comprehensive planning for an optimum-sized sawmill investment included checking out types of machinery offered by the above-mentioned contractors. VKV Lumber Company at White Sulphur Springs employed a new chip-and-saw installation plus chipping plant ideal for small log manufacture. Mr. Francis Vollstedt, mill owner, also operated a standard sawmill with no planer mill, designed for rough green lumber production.

Carl Danielson's sawmill at Pablo contained a planer for finished lumber, in addition to one burner and rolling stock. Mr. Danielson's long-term experience in marketing and manufacturing appeared to be excellent.

Donald and Robert Delaney, operating forest products processing plants at Browning, Helena, Lincoln, and Missoula, Montana, exhibited a wealth of marketing, financial, and managerial knowledge. Having had wide experience with Indian employment on the Blackfeet Reservation, they indicated a willingness to visit the Rocky Boy's Reservation in late May.

Accomplishing an aerial reconnaissance and on-the-ground inspection of the reservation forest on May 29, 1969, Donald Delaney, Clifford Rollins, Randy Walker, Henry Kipp and Paul Kipp firmed up future plans with Montana Lumber Sales. Mr. Delaney asked such questions as: length of period of harvest on Indian lands, extent of on-reservation manufacturing, B. I. A. stumpage appraisal methods and prices. Further meetings at Missoula and

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Havre with Montana Lumber Sales crystallized the above-mentioned points as key issues in establishing a forest industry. Clearly, the Delaney brothers were an excellent choice as potential management contractors.

Drafting a Forest Development Agreement

Throughout the months of April - July, B. I. A. forestry personnel at Rocky Boy's Agency and in the Billings Area Office developed and revised a contractual document known as the Forest Development Agreement. Parties to the Agreement were the Chippewa-Cree Tribe of the Rocky Boy's Reservation of Montana, organized under Section 16 of the Act of June 18, 1934, 48 U. S. Statutes at Large 984, and Montana Lumber Sales, Inc., of Missoula, Montana, a Montana corporation. Precedents for such an agreement being few, the forestry staff relied upon Warm Springs Reservation and Navajo Reservation Forest Enterprise documents guidelines. In final draft form, a copy of which appears in the appendix, the agreement established obligations, authority, and procedures for conveyance of timber by means of several Logging Unit Contracts. Manufacture of such timber into forest products at a mill to be located on the Reservation was stipulated. As part of the Forest Development Agreement, a termination date eight years from date of approval, or at other such times as may be mutually agreed upon by the contracting parties, was specified. Machinery for resolving disputes, processing appeals, and undertaking contractual modifications appeared in the agreement. Stumpage appraisal, utilization of timber, logging requirements, training provisions and product
merchantability standards all received attention. A map of the Green Canyon II Logging Unit was attached to the agreement.

Montana Lumber Sales received representatives of the Small Business Administration, Bureau of Indian Affairs, and Community Action Program of the Chippewa-Cree Tribe on the University of Montana campus in July of 1969. Ratification of the Forest Development Agreement by Tribal Resolution occurred prior to this meeting. Jack Shoemate, B. I. A. Loan Specialist, had completed cash-flow analysis of the Rocky Boy's Development Corporation investment obligations of $300,000.00 for sawmill construction. Montana Lumber Sales representative, Donald Delaney and Randolph Walker, analyzed the lease provisions for construction and operation of a sawmill and related facilities on the Rocky Boy's Reservation with Jim Ready and Jack Shoemate. According to the sawmill lease terms, Rocky Boy Development Corporation would own the facilities. Montana Lumber Sales would be responsible for operation and maintenance of the $300,000.00 forest products plant, under a seven-year, six-months lease, subject to five-year renewal by approval of the Secretary of the Interior. Lease rentals would amount to $3000.00 per month during the interest period and not less than one per cent of fair market value, monthly, for the renewal term. Provisions for insurance, taxation payments, accounting

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10U. S. Department of Interior, Bureau of Indian Affairs, Draft of Rocky Boy's Sawmill Lease (Box Elder, Montana), 12 pages.
statements, attorneys fees, subleasing, inspections, and arbitration received attention during the July meeting. No documents were signed. However, all parties agreed that some significant constraints to negotiations had been resolved.

Increasing concern over recent declines in the Western Wood Products lumber price index for the second quarter of 1969 led to a lengthy discussion of stumpage price updating methods by Donald Delaney, Randolph Walker, Leo Cummins, Paul Kipp, and Henry Kipp. Donald Delaney felt that adjustment of stumpage using the Western Wood Products Association Quarterly Price Indices method would not accurately reflect trends in the markets for utility and better grade stud lumber. As stud-size lumber from lodgepole pine, in the 6 to 13 inch diameter range, would constitute a major product from Rocky Boy's Reservation timberlands, Mr. Delaney's reasoning appeared valid. Area Forester, Paul Kipp, accepted Delaney's argument that stumpage prices be adjusted, using utility and better stud prices as a value base. A 15 per cent profit and risk factor received acceptance from Montana Lumber Sales due to steep terrain on reservation logging units and distance from primary forest products markets. Eleven per cent was considered average for timber sales in the Forest Service Northern Region (Idaho, Montana).

By November of 1969, lumber sales prices for Douglas fir, ponderosa pine, Englemann spruce, white fir, lodgepole pine, western larch and other major commercial species declined an average of $50.00 per thousand board
feet. Sawmills began shutdowns, being unable to pay high stumpage prices for logs and sustain losses at the marketing end. Although retaining an interest in establishment of a forest products industry on Rocky Boy's Reservation, Montana Lumber Sales was prevented from expanding operations in a depressed market period. 11

11U. S. Department of Interior, Bureau of Indian Affairs, Area Staff Officers Report of Visit to Rocky Boy's Reservation (Billings, Montana: November 12, 1969).
An Alternative Forest Development Program

Major considerations crucially affecting the formation of a forest products operation demanded immediate attention if the interagency task force and Tribal Business Committee expected successful culmination of their mutual planning efforts. Sessions with the Business Committee on November 12, 1969 dealt very successfully with potential manufacturing.

A prospective logger-mill operator, Kenneth Wornath of Lolo, Montana, was introduced to the Tribal council by Russell Estes. Working in the role of Industrial Development Specialist, Mr. Estes also presented a proposed budget and plan of operations for Mr. Wornath's small forest products industry. As subcontractor for Montana Lumber Sales Inc. in the Missoula and Lewistown, Montana areas, Mr. Wornath had achieved a variety of management experience in mill operations.

Briefly, Mr. Estes proposed an approach whereby timber sales direct from the tribe to Wornath Lumber Company could be negotiated using proper B.I.A. contract procedures. This would be coupled with Rocky Boy's Development Corporation training grant funded through the Office of Economic Opportunity (OEO). Funding would cover the first critical 6 to 12 month period of abnormally high production costs due to inexperienced
woods and mill labor. Plans for future expansion beyond the rough lumber-tie production stage to a planer mill could materialize under Wornath Lumber Company auspices. Expenses to the Chippewa-Cree tribal budget appeared minimal beyond selection and maintenance of a mill site. Accordingly, the Chippewa-Cree Business Committee, favoring Mr. Estes's proposal, agreed to prepare and hand carry project proposals to O.E.O. in Washington, D. C. for securing financing.

Office of Economic Opportunity Funding

Private and public investment capital for promotion of forest based economic development can induce favorable side benefits. Jack C. Westoby, in an article, Forest Industries in the attack on Economic Underdevelopment states that:

A given investment project may have a number of 'secondary' benefits which do not appear in the form of money returns to the firms not directly involved . . . these consist essentially in the 'increase in net incomes in activities stemming from, or induced by, the project . . . through its demand for inputs and through the demand arising from the higher incomes of the newly employed, it will enlarge the market for other industries'. . .

Russell Estes's Proposed Budget - Rocky Boy's Sawmill Project reflected such thinking. Projected for the entire calendar year of 1970, this document furnished guidelines of immense value to management and to the

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12U. S. Department of Interior, Bureau of Indian Affairs, Area Staff Officer's Report of Visit to Rocky Boy's Reservation (Billings, Montana: December 2, 1969).

Chippewa-Cree Tribal Business Committee. Estimates presented included salaries for Project Manager, Foreman-Trainer, travel and per diem, office expenses, contractual services, equipment set up, equipment lease or rental, number of people on trainee pay, number of people on production payroll, operating supplies and expenses, contract administration, stumpage, and slash disposal. In addition, gross lumber sales realization was plotted along with O. E. O. training grant expenditures, on a monthly basis. All costs totaled up to $166,400, defrayed by an estimated $82,500 gross income and by the $83,900 O. E. O. grant for training. *11*

Subsequent analysis of the Wornath Lumber Company operations will be related back to this master document, a copy of which appears in the appendix.

**Investment by the Contractor**

Many days of intensive planning and preparations by Frank Hayes and John DeMontiney of the Community Action Program at Rocky Boy's Agency, facilitated approval of the $82,500 O. E. O. training grant in early January of 1970. Mr. Wornath obtained equipment and some financing through Montana Lumber Sales Inc. of Missoula. By Resolution 71-69, the Chippewa-Cree Tribal Business Committee adopted the Green Canyon Unit II timber sale contract. A 50-50 sharing of Wornath's timber sales receipts, over and above costs, during the 12-month, O. E. O.-funded training period also met with tribal council commendation. Mr. Henry Kipp, B. I. A.

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Natural Resources Specialist, drafting the Profit-Sharing Agreement for the Chippewa-Cree Tribal Business Committee, cleared the document with Gordon Hoven, then tribal attorney, prior to council action.

Timber Contract for Sale of Predetermined Volumes No. 114-20-0259-278, covering provisions on the Green Canyon II Logging Unit was finally reviewed and approved by the Area Director of the Bureau of Indian Affairs on March 25, 1970. Authority for this first timber sale contract was promulgated under the Act of June 25, 1910 (25 United States Code 407), as amended by the Act of 30, 1964, Public Law 88-301 in accordance with provisions of the Code of Federal Regulations, Title 25, Section 141.

Throughout the above-mentioned developments, Kenneth Wornath supervised the installation of a portable mill. Consisting of double over-under 52-inch circular saws mounted on a gasoline-powered log carriage, one edger, a green chain and trim saw, the plant reached completion in late January of 1970. Installed outside the mill shed, a GMC gasoline engine powered the head saw. Cost figures on this equipment reveal the amount of operator plant investment:

<table>
<thead>
<tr>
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<th>Cost</th>
</tr>
</thead>
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<td>Facilities (Plant)</td>
<td>$5,000</td>
</tr>
<tr>
<td>Cut-off saw</td>
<td>$ 800</td>
</tr>
<tr>
<td>Edger saw</td>
<td>$2,500</td>
</tr>
<tr>
<td>Top saw head rig</td>
<td>$8,000</td>
</tr>
<tr>
<td>Conveyor and green chain</td>
<td>$3,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$19,300</strong></td>
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Rolling stock, furnished by Kenneth Wornath Lumber Company included
the following items:  

1 Warner-Swasey Hopto hydraulic log loader $5,000.
1 Rubber-tired front-end loader $10,000.
1 Fork lift with side shift $2,500.
2 logging trucks (used) $6,000.
1 HD-6 caterpillar dozer $10,000.
4 Homelite power saws $8,000.

TOTAL $314,300.

Land for the mill installation, located two miles north of the Rocky Boy's Agency, was furnished rent free and tax free by the Chippewa-Cree tribe. The site itself consisted of a four acre leveled and partially graveled benchland, adjacent to the Laredo road.

Manpower requirements for forest development

Fourteen enrolled members of the Chippewa-Cree tribe entered training positions on the Wornath Lumber Company payroll, the first week of February, 1970. Timber falling, skidding, loading and trucking operations, directed by Mr. Wornath, commenced job-training for 3 sawyers, 1 tractor operator, 1 choker setter, 1 loader, and 2 logging truck operators. Mr. Arden Rebe, Wornath's mill manager, undertook the training of 1 headsawyer, 2 edgermen, 1 fork-lift operator, 2 greenchain men, and 1 millwright mechanic. Logs, unsalvaged from two previous tribal cutting programs and a defaulted timber permit began to pile up in the mill yard. Another tribal member began working as a log bucker, cutting off checked ends and making the lengths from random-length lodgepole pine and Douglas fir logs. Average trainee wage amounted to $2.00 per hour.

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15 Equipment List obtained from the Kenneth Wornath Lumber Company, December, 1969.
Employees demonstrated generally a positive work attitude by contributing to a very low job turnover. Several individuals had to be released for poor observance of safety and insubordination. Chronic breakdown of logging trucks and the small caterpillar bulldozer diminished logging production. An early spring breakup created knee-deep mud conditions on main haul roads by March 15th. Employees were retained on the payroll, being employed in building an equipment repair shed and sawmill housing structure.
CHAPTER V

TIMBER SALE ADMINISTRATION

Role of the Bureau of Indian Affairs

Guidelines for the development of forest resources on Indian lands follow a legal framework, which is prescribed by the United States Congress, Secretary of the Interior, and published in the Code of Federal Regulations, Title 25. Section 141.4 Sustained-yield management illustrates an important aspect of timber sale harvesting:

In accordance with the objectives set forth in 141.3, the harvest of timber from Indian forest lands will not be authorized until there have been prescribed practical methods of cutting, based on sound silvicultural principles. Cutting schedules shall be directed toward the salvage of timber that is deteriorating as a result of fire damage, insect infestation, disease, over-maturity or other cause; and toward achieving an approximate balance between maximum net growth and harvest during each cutting cycle.16

Sound silvicultural principles and effective forest management techniques form a cornerstone of resources development on all reservations having a timber base. Today, highly sophisticated political-contractual relationships between tribes and the private sector flourish. Foresters and other resource managers in the B. I. A., in trying to achieve economic progress through strictly bureaucratic channels, have sometimes failed to achieve effective working roles. B. M. Tolofson's comments highlight

The potential contribution of forestry to economic development is not well understood or expressed by professional foresters. They have not been sufficiently adept at convincing funding agencies that investments in forestry can produce positive results in regional . . . economic development. As a result, governments often do not create the conditions necessary to facilitate profit from forest resources . . . In consequence, a vicious circle is created, and the flow of capital is often inadequate for the forestry and forest industries sector to demonstrate its development potential.  

Operating on a very limited forestry appropriation, the Rocky Boy’s Agency staff consisted of one Natural Resources Specialist, GS-11 position. Acting as range conservationist, farming lease administrator, oil and gas leasing coordinator, forest and range fire control officer, safety program administrator, tribal liaison officer with the Chippewa-Cree tribal land resources committee, outdoor recreation coordinator, and in other capacities, the resources specialist attempted to cope with an increasing forestry work load.

Realizing the Rocky Boy’s Agency staffing problem, Superintendent Albert W. Trimble, a concerned proponent of community development, urged budgetary relief from the Billings Area Director’s Office. Mr. Henry Kipp prepared the resources Planned Program Budgeting for Fiscal Year 1971 in November of 1969. Some interesting results took place. The B. I. A. forestry budget for Rocky Boy’s Agency increased from $8000 in Fiscal Year

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1969 to $14,500 for Fiscal Year 1970. To accommodate a vastly expanded staff work load, Mr. Louis Weaselboy was hired in a new forestry aid position. Undergoing intensive training in forest management and fire control techniques, Mr. Weaselboy soon undertook field assignments in timber marking, sale cruising, and logging road layout. Participation in conferences and tribal council meetings connected with establishing the Wornath Lumber Company operation required staff preparation well beyond the normal working day. Only part time supervision of the new forestry aid appeared possible.

A Superintendent - Area Forestry - Natural Resources Specialist - CAP Director - Industrial Development Specialist team directed necessary negotiations skillfully. Training inputs and job motivation of tribal membership toward logging and milling fell largely upon Mr. Henry Kipp and the Wornath Lumber Company management. Some job training was accomplished at the newly constructed Natural Resources Building on Agency grounds.

Five seasonal fire suppression personnel trained by the B. I. A. Natural Resources Specialist, later obtained and held key positions with the Wornath Lumber Company. These happened to be underemployed family men with some background in the Tribal Work Experience Program (T.W.E.P.).

**Striving for Improved Logging Production**

Bureau of Indian Affairs timber sale administration prior to and during the starting up of logging activity should be mentioned. Forestry examined ways of eliminating poor communications and extending full
services to the new industry. Realizing that a log scaler would be needed for timber volume estimation during salvage cutting operations, the B. I. A. Natural Resources Specialist arranged with Lewis and Clark National Forest timber staff for a two week detail of one B. I. A. forestry aid. Working on the White Sulphur Springs Ranger District, under a Forest Service log scaler, Louis Weaselboy acquired a basic knowledge of estimating sweep, crook, check, pitch ring, fire scar, shake and rot defects in five timber species. Two Permit Salvage Sales in barkbeetle-infested, overmature Douglas fir were cruised and prepared during Mr. Weaselboy’s absence.

Wornath Lumber Company completed skidding and hauling residual logs from the 1965 defaulted permit sale early in March. Logging of Douglas fir beetle-infested timber in Green Creek commenced March 10 and continued through early April when spring breakup created impassable road conditions. Layout of this particular permit sale consisted of an orange painted boundary facing into the cutting area. All green, young Douglas fir was reserved from cutting, if not infested by Dendroctonus beetles. All dead and dying overmature timber, regardless of species, was included in the timber harvest.

Progress in logging efficiency showed up during utilization inspections on this timber unit, and subsequently on Green Canyon II Contract sale. Snag felling, decrease in skidding damage to reserve standing timber, improved long butting, correct log-length trim allowance, regulation stump heights ranked among proper utilization practices encouraged through direct
contact with Mr. Wornath and his employees by the forester. Mr. Kipp also continued scaler training at the sawmill yard. Use of numbered sets of scale sheets, and log tapes, as well as scale sticks greatly expedited B. I. A. scaling services.

In a visit to the Rocky Boy's Reservation on June 4, Mr. Estes and members of the industrial development task force noted that daily production of railroad ties and studs had reached 8,000 board feet, close to mill capacity. Mr. Wornath's greatest problem, however, lay in supplying logs, due to undersized, used tractors and trucks which experienced recurrent breakdowns. Forestry looked for ways to eliminate this logging production bottleneck by assistance in obtaining a D-7 Caterpillar tractor with dozer blade for constructing logging spur roads and for log skidding.

Accomplishment of Objectives

Following spring breakup, the B. I. A. roads department widened narrow turns, graveled stretches of adverse grade, side-ditched and installed several culverts along the 11-mile log haul route. Unfortunately, gravel was obtained from a rock slide and caused logging truck tire blowouts from time to time. Verbal agreement between Wornath and B. I. A. Roads Engineer, Jim Reay, for use of an Agency D-8 caterpillar failed to materialize. Contractual difficulties not being resolved, roads equipment

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went to the Beaver Creek road project. Poor access to upper slopes of the Green Canyon II Logging Unit remained a serious obstacle to increasing logging output. Skidding and hauling costs skyrocketed, creating accelerated depletion of O. E. O. operating capital.

Far exceeding timber sale administration duties, Henry Kipp assisted the Wornath Lumber Company in procurement of adequate road construction equipment. In early October of 1970, a D-7 caterpillar tractor was located on a reservation quartz-mining lease. With concurrence by the leasee, Mr. Wornath and Frank Papillo Construction Company, owner of the tractor, logging road construction finally commenced on Green Canyon II sale. Louis Weaselboy, B. I. A. forestry aid, felled danger trees for the operator, Roy Doulton, as the D-7 bulldozer had no canopy. Louis kept operator time throughout construction of the logging access roads system. Shortage of funds compelled Mr. Wornath to curtail construction on one mile of the second spur road. Nevertheless, the new roads boosted hauling from two to five log loads per day. Average load was calculated at 3,500 - 4,000 board feet. Hiring two timber fallers, John St. Marks and Peter DeMontiney, augmented log supply for the skidding operations. Unfortunately, all of these improvements in efficiency took place towards the end of the O. E. O. funding subsidy in the Fall of 1970. Earlier completion certainly should have expanded timber output during the favorable summer logging season. In delaying road construction, Wornath Lumber Company failed to acquire a reserve of cash receipts from increased product sales.
CHAPTER VI

SOCIOECONOMIC IMPACT

Tribal attitudes

Gilbert F. White comments upon economic growth of underdeveloped areas in Social and Economic Aspects of Natural Resources, relating that:

less-developed countries must apply for themselves new economic and other structures and relationships to fit their needs and conditions . . . this is because the seeds of growth are multi-dimensional and may include social and activational factors and changes that stimulate creativity . . . Thus, a society is not apt to enter upon continuing technological progress until some change occurs in its social situation.19

Sentiment favoring gainful employment is strong among Chippewa-Cree tribal leadership. Maintaining a positive Tribal Work Experience Program for underemployed tribal members, the Tribal Business Committee has pushed for such O. E. O. funded programs as Operation Mainstream, which employs older membership in conservation projects. Other programs as Neighborhood Youth Corps (N. Y. C.) reach tribal youth. Lack of positive supervisory direction has blunted the potentially constructive efforts of these employment projects. Unfortunately, people expect to be kept on payrolls even if there is a decline in output. Such attitudes early jeopardized success of the new Rocky Boy's industry.

Overreaction of tribal leadership and the Community Action Program to demands that fifteen sawmill trainees be kept working during spring shutdown of woods and milling operations contributed to a serious reduction of capital reserves. Mr. Wornath, cautioned to be aware of un-thrifty federal appropriation expenditure practices, acceded to such demands under pressure. Six weeks wages bought no logs and hence, no lumber production during most of April and early May.

Tribal attitude towards the Wornath Lumber Company lumber inventory caused a serious setback. Removal of a sizeable board footage of rough lumber for construction of Wild Game Bird Farm enclosures and pens occurred in June, 1970. The Business Committee interpreted receipts profit-sharing to mean forest products sharing. Payment for 1 x 6 and 2 x 6 lumber was refused. Reduction in lumber inventory restricted sales volume, thereby placing Mr. Wornath in an awkward position. This matter was resolved in November, 1970, too late to put company operations in the black.

Another interruption occurred when the Wornath Lumber Company diverted a loader and logging truck to cleanup lodgepole pine timber, felled during construction of a new recreation complex in Beaver Creek. Approximately 40,000 board feet of prime stud log salvage hardly paid for production downtime on the Green Canyon II Logging Unit. The 50 mile haul to and from Green Canyon sale should have been arranged for winter season operations when conditions deteriorate on steeper wet terrain. The logs, being decked along Beaver Creek Road, were quite accessible under adverse
weather conditions. All considered, tribal attitudes acted as a serious constraint to normal timber production.

Training Results

Wornath Lumber Company payroll varied from 9 to 15 employees during 1970. Chippewa-Cree tribal members received experience in timber harvesting and processing. Evaluation of each employee presents a concise picture of skill acquisition.

<table>
<thead>
<tr>
<th>EMPLOYEE</th>
<th>SKILLS ACQUIRED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earl Nault</td>
<td>marketing and supervision</td>
</tr>
<tr>
<td>Francis Eagleman</td>
<td>edger operation</td>
</tr>
<tr>
<td>William Caplette</td>
<td>head rig operation</td>
</tr>
<tr>
<td>Charles Gopher</td>
<td>trim saw and green chain</td>
</tr>
<tr>
<td>Robert Caplette</td>
<td>mill equipment maintenance</td>
</tr>
<tr>
<td>Victor Denney</td>
<td>trim saw and green chain</td>
</tr>
<tr>
<td>Calvin Russette</td>
<td>log loading operations</td>
</tr>
<tr>
<td>Eugene LaMere</td>
<td>tractor skidding</td>
</tr>
<tr>
<td>James Sangrey</td>
<td>tractor skidding</td>
</tr>
<tr>
<td>Gene Russette</td>
<td>logging truck hauling</td>
</tr>
<tr>
<td>Peter DeMontiney</td>
<td>timber falling</td>
</tr>
<tr>
<td>J'ohn St. Marks</td>
<td>timber falling</td>
</tr>
<tr>
<td>Richard Denny</td>
<td>timber falling</td>
</tr>
<tr>
<td>Lester Russette</td>
<td>edger operation</td>
</tr>
<tr>
<td>Peter Windy Boy</td>
<td>logging truck hauling</td>
</tr>
</tbody>
</table>
Had the sawmill prospered, a planer operation employing an additional six men was being considered. A much greater lumber output had to be achieved, however, before added investment could be justified. Since the mill closure in December of 1970, many employees have been hired in Housing and Urban Development Mutual Help and Low Rent Housing projects on the reservation. A few, including William Caplette, have found jobs in the construction and forest products industry off-reservation. It should be mentioned further that accounting and payroll skills were gained by George Mitchell and Leota Caplette of the Community Action Program. Mr. Jack Shoemate, B. I. A. Credit Officer, and Frank Hayes of C. A. P. assisted in the training. Valera Hayes, B. I. A. Employment Assistance Officer, undertook many hours of interviewing prospective employees, keeping records of their work progress through contacts with Mr. Arden Rebe.

**Income to the Chippewa-Cree Tribe**

Using 1970 as a calendar year and considering only the financial impact of Wornath Lumber Company, one may measure a portion of the Chippewa-Cree Tribal Net National Product. For our purposes, Net National Product refers to salary-wage earnings, equipment rentals, and value of marketed forest products, government purchases and stumpage income. As Mr. Kenneth Wornath's entire mill and rolling stock consisted of used equipment, we shall exclude it from private capital investment value. Also, applying Paul Samuelson's advice:
to avoid double counting, we take care to include in net national product only final goods, not the intermediate goods that go to make the final goods . . . resolutely sticking to the value added at each stage, taking care to subtract expenditures on the intermediate goods bought from other firms . . . avoids all double counting and records wages, interest, rent and profit exactly one time. 20

Value added applies to Wornath Lumber Company output after subtracting value of intermediate goods purchased for production of forest products. Such items as chainsaw parts, gasoline, equipment parts, conveyor belts, hydraulic fluid and lubricant are classified under firm operating expense. Stumpage, the amount of money needed to purchase standing timber (value of timber as it stands uncut), 21 is another measurable expense. It also represents income to the tribe for resources. Other major cost items comprise salaries of project manager (Wornath), mill foreman-trainer (Rebe), wage earners (15 tribal members), contract administration services (B. I. A. and Wornath Lumber Company), travel, office expense, per diem and equipment rental.

We show a breakdown of dollar figures for some of the above-mentioned costs, reflected in the June 1, 1970 company cash disbursement. At first glance, one notices a disparity between gross income and total


costs of five months' operations amounting to $36,650. In order to break even, the operation had to realize $67,000 in forest product sales before December 1, 1970. O. E. O. training grant is shown as $83,900.

CASH DISBURSEMENT FOR KENNETH WORNATH LUMBER CO. 22

<table>
<thead>
<tr>
<th></th>
<th>1st 5 Months</th>
<th>Balance</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Manager</td>
<td>$ 5,000</td>
<td>$ 7,000</td>
<td>$12,000</td>
</tr>
<tr>
<td>Foreman, Mechanic and Land Operator</td>
<td>5,000</td>
<td>7,000</td>
<td>12,000</td>
</tr>
<tr>
<td>Travel and per diem</td>
<td>1,600</td>
<td>1,750</td>
<td>3,350</td>
</tr>
<tr>
<td>Office</td>
<td>1,000</td>
<td>1,400</td>
<td>2,400</td>
</tr>
<tr>
<td>Contract services</td>
<td>1,750</td>
<td>1,450</td>
<td>3,200</td>
</tr>
<tr>
<td>Equipment setup</td>
<td>2,000</td>
<td></td>
<td>2,000</td>
</tr>
<tr>
<td>Equipment lease</td>
<td>8,500</td>
<td>14,000</td>
<td>22,500</td>
</tr>
<tr>
<td>People on Trainee Pay</td>
<td>17,150</td>
<td>16,450</td>
<td>33,600</td>
</tr>
<tr>
<td>People on Production Payroll</td>
<td>2,400</td>
<td>48,000</td>
<td>50,400</td>
</tr>
<tr>
<td>Operating Supplies and Expenses</td>
<td>3,700</td>
<td>7,000</td>
<td>10,700</td>
</tr>
<tr>
<td>Contract administration</td>
<td>2,500</td>
<td>3,500</td>
<td>6,000</td>
</tr>
<tr>
<td>Stumpage and slash disposal</td>
<td>1,550</td>
<td>6,700</td>
<td>8,250</td>
</tr>
<tr>
<td>TOTAL COST</td>
<td>$52,150</td>
<td>$125,050</td>
<td>$166,400</td>
</tr>
<tr>
<td>ESTIMATED GROSS INCOME</td>
<td>15,500</td>
<td>67,000</td>
<td>82,500</td>
</tr>
<tr>
<td>DIFFERENCE</td>
<td>36,650</td>
<td>47,250</td>
<td>83,900</td>
</tr>
</tbody>
</table>

---

22 Russell E. Estes, Cash Disbursement for Rocky Boy's Sawmill (Bozeman, Montana: Center for Industrial Development and Management Services, June 1, 1970).
Wornath Company Earnings

Commencing June 5, 1970, regular shipments of railroad ties left Box Elder, Montana for the Burlington Northern tie plant at Somers, near Kalispell. Wornath's contract specified 9 inch by 7 inch by 8 foot products from Douglas fir at $94.00 per thousand board feet (M.B.M.). One pallet contained 30 ties. Each carload shipment held 20 pallets. Each tie scaled 35 board feet before defect deduction. Old-growth Douglas fir, providing the bulk of tie volume, averaged 20 - 25 per cent defect.

One realizes that a tie product in the $90 - $100.00 per M.B.M. range placed the Wornath Lumber Company in an advantageous market position, in comparison with other small mills. Sales realization values on utility or better studs fell below $60.00/M.B.M. for much of 1970. Selling values for Larch - Douglas fir lumber approached $70.00/M.B.M., in the Western Wood Products Quarterly Price Index. Evidently, other small sawmills had to struggle in order to avoid closure. Recording deliveries of railroad ties, one notes the potential for profit. Unfortunately, number of deliveries did not reach an optimum level due largely to bottlenecks in logging output to the mill yard. Tie shipment information follows:

<table>
<thead>
<tr>
<th>Date</th>
<th>Carload</th>
<th>Board feet</th>
<th>Gross Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-5-70</td>
<td>1</td>
<td>22,750</td>
<td>$2068.00</td>
</tr>
<tr>
<td>6-30-70</td>
<td>2</td>
<td>45,500</td>
<td>4136.00</td>
</tr>
<tr>
<td>7-7-70</td>
<td>1</td>
<td>22,750</td>
<td>2068.00</td>
</tr>
<tr>
<td>7-31-70</td>
<td>1</td>
<td>22,750</td>
<td>2068.00</td>
</tr>
<tr>
<td>8-18-70</td>
<td>1</td>
<td>22,750</td>
<td>2068.00</td>
</tr>
<tr>
<td>8-31-70</td>
<td>1</td>
<td>22,750</td>
<td>2068.00</td>
</tr>
<tr>
<td>10-5-70</td>
<td>1</td>
<td>22,750</td>
<td>2068.00</td>
</tr>
<tr>
<td>11-3-70</td>
<td>1</td>
<td>22,750</td>
<td>2068.00</td>
</tr>
</tbody>
</table>
Douglas fir studs, hauled to Missoula for open market sale in late November of 1970 were valued at $15.00 per M.B.M. Truck trailer loads totaling 40,000 board feet left the yard. Fencing materials from salvaged slabs brought approximately $300.00 at $10.00 per bundle. Rough lodgepole pine and Douglas fir 1x6, 2x6 and 2x8 boards sold for $65.00 - $70.00 per thousand. Total estimated rough lumber sales came to $14,000. Wornath Lumber Company piled mill waste free to Indian fuel wood users. Possibly, some tribal members sold a portion. Seventy-foot high flames consumed this enormous slab pile early in January of 1971.

Net National Product values based upon employee wages of $50,400, $3,000 stumpage income, and forest product sales of an estimated $36,780 fail to paint a rosy picture of economic development.

Multiple-Use Considerations

In evaluating externalities, Samuelson defines external economy "as a favorable effect on one or more persons that emanates from the action of a different person or firm." External economies created by the Rocky Boy's Reservation sawmill may be listed as salvage of timber, construction of multiple-use roads, skills development for job mobility, range improvement side benefits derived from logging exposure to forest products marketing as well as environmental education.

Specifically, salvage logging in an active Dendroctonus bark beetle epidemic area of the reservation forest prevented a further beetle flight and subsequent damage. Previous cutting operations underwent cleanup. Over two miles of secondary road construction represents a long-range investment in fire protection and recreation access. Brush removal on range sites abutting the logging area will enhance livestock use and increase animal unit months. Sound forest management practices were demonstrated to tribal members as a part of timber sale administration.
CHAPTER VII

RECOMMENDATIONS AND CONCLUSIONS

Meeting major objectives, the Kenneth Wornath Lumber Company demonstrated feasibility of processing and marketing timber from the Rocky Boy's Indian Reservation. Awareness of their valuable forest resource has grown in the minds of tribal membership. Forest development practices now occupy an important position in Bureau of Indian Affairs planning goals for the Rocky Boy's Indian Reservation. As professional resource consultants responsible to the Chippewa-Cree Tribe, interagency team members may share a glow of satisfaction, realizing that efforts to develop a larger, more stable forest industry continue throughout 1971.

There has been some recent change regarding industrial development. United States Plywood Corporation purchased Montana Lumber Sales' Helena and Browning operations early in 1971. Mr. Kenneth Wornath has applied for an extension in order to complete the Green Canyon II timber contract. Interest in subcontracting logging operations to qualified members of the Chippewa-Cree tribe has been expressed by the Wornath Lumber Company and by U. S. Plywood. As the lumber market improves with rises in the Western Wood Products Price Index, the B. I. A. and Tribal Business Committee explore all possible alternatives for on-reservation forest development. The following recommendations apply to the Rocky Boy's Reservation at this time.
1. The most strategic location for the sawmill should be the Box Elder, Montana area. Power, rail transportation and forty acres of tribal land zoned for industrial development are available. Access over paved, all-weather roads should sustain a smooth flow of forest products to distant markets, and keep the sawmill supplied with ample logs.

2. Capital investment of two caterpillar or rubber tired tractor skidders, three logging trucks, one hydraulic-grapple loader, and five power saws represents the minimum needed to sustain an efficient daily logging production of 30,000 board feet, over an 8-10 month annual production period.

3. Adequate financing to cover plant maintenance, equipment replacement, wages for 30 man years of employment, and advance stumpage payments should be obtained from a parent corporation similar to U. S. Plywood.

4. Reforestation and other intensive forestry practices should be funded by tribal allocation of 5 per cent of all stumpage receipts. This will supplement B. I. A. appropriations for seasonal conservation measures on timber sale areas.

5. An accelerated environmental education program under inter-agency auspices should be introduced in the Rocky Boy's Elementary
and Box Elder High Schools. Opportunity for participation in forest and range conservation projects would be increased through federal funding and increased resources staff at the Rocky Boy's Agency.

6. Housing for resident sawmill operator-management families should be provided at fair rental rates by the Chippewa-Cree tribe, as an incentive to maintaining a long-range timber sales program, should company housing be unavailable.

7. A multiple-use plan for the Rocky Boy's Reservation forest, as incorporated in HUD701 Comprehensive Plan needs to be clarified, expanded and strengthened with regard to forest management alternatives.


D. Schedule (Note: This schedule to be refined)

**Sawmill Schedule**

- Finalize Proposals
- Select Contractor
- Complete Financial Arrangements
- Finalize Contract
- Select equipment, move equipment, prepare site, construct building and install equipment.
- Select Work Force
- Train key personnel
- Start up operations
- Production

**Logging Schedule**

- Secure equipment
- Select work force
- Train personnel & start logging
- Engage in logging operations:
  - June
  - July
  - August
  - September
  - October
## Rocky Boy's Sawmill Project
### Management Contract - Contacts and Responses

<table>
<thead>
<tr>
<th>Name of Individual or Firm</th>
<th>Initial Inquiry</th>
<th>Feasibility Report &amp; Proposal Guidelines</th>
<th>Unsolicited Inquiry</th>
<th>Personal Visit or Follow-up Contact</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carl Danielson</td>
<td>Submitted equipment list &amp; letter of interest</td>
<td>Still interested</td>
<td>Mill &amp; Equipment inspected 6/21</td>
<td>Number one concern is to sell mill. Would function as manager.</td>
<td></td>
</tr>
<tr>
<td>Ronan, Montana</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Montana Lumber Sales, Donald Delaney, Missoula, Montana</td>
<td>Expressed interest</td>
<td>no response</td>
<td>--</td>
<td>Has equipment, training opportunity, management, sales and investment money.</td>
<td></td>
</tr>
<tr>
<td>Paul Smith</td>
<td>Submitted list of equipment</td>
<td>Responded that he does not have management</td>
<td>Equipment inspected 5/22</td>
<td>Has mill equipment for sale. Has a party interested to act as manager.</td>
<td></td>
</tr>
<tr>
<td>Lincoln, Montana</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glacier Tree Service, Ken Doty, Havre, Montana</td>
<td>--</td>
<td>--</td>
<td>Inquired about Indian timber &amp; manpower</td>
<td>Was considering a Havre sawmill - has abandoned idea. Interested as logging contractor</td>
<td></td>
</tr>
<tr>
<td>Pack River Co., Steve DeMers, Polson, Montana</td>
<td>Expressed interest</td>
<td>no response</td>
<td>Mr. DeMers was phoned-appears still interested</td>
<td>No response after Board meeting. Apparently low level of interest.</td>
<td></td>
</tr>
</tbody>
</table>
III. Ideal Plan

In seeking a management contractor, the following criteria was established as being an ideal plan.

A. Contract Period

<table>
<thead>
<tr>
<th>Years of Logging and Sawmill Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
</tr>
</tbody>
</table>

- Contractor
- Indian Involvement

Indian Development & Training

Indian Operated

100% involvement by contractor

Limited Financial Responsibility Capacity

B. Organization

Management Contractor

- Construction
- Logging Operations
- Sawmill (Rough Green)
- Planning Operations

- Administration & Finance
- Training
- Sales
APPENDIX 1

DEFINITION OF SYMBOLS

\( M \) = Management Contract Cost, (\$)
\( C \) = Working Capital, (\$)
\( E \) = Equipment Cost, (\$)
\( F = \) Initial Fixed Cost, \( F = M + C + E \), (\$)
\( W \) = Operating Costs, (\$/10^3 \text{ board feet})
\( S \) = Stumpage Costs, (\$/10^3 \text{ board feet})
\( X \) = Manufacturing Quantity, (\text{board feet/year})
\( Z \) = Selling Quantity, (\text{board feet/year})
\( Y \) = Breakeven Selling Price, (\$/10^3 \text{ board feet})
\( V \) = Annual Variable Cost, \( V = X (W + S) \), (\$/year)
\( P \) = Annual Fixed Cost, \( P = F \) (Capital Recovery Factor), (\$/year)

\( i \) = Interest Rate
\( n \) = Operation Period

\[
Y = \frac{F}{Z} \left[ \frac{i (1 + i)^n}{(1+i)^n - 1} \right] + \frac{X}{Z} (W + S)
\]

\[
= \frac{1}{Z} (P + V)
\]
Chainsaws and Falling Equipment
4 units at $350 each

$ 1,400

Houses, Skidding, Harnesses, Cables, etc.

2,500

Loader (used)

4,000

Logging Truck (used)

8,000

Yard Lift (used) 2 at $12,000 each

24,000

Timber Harvester (Jackson Portable)
2 at $15,000 each

30,000

Edger, 1/8" single arbor (new)

35,000

Conveyors

3,000

Planer (used)

9,000

TT Burner

5,000

Building

10,000

Site Improvements (including fence)

5,000

Caterpillar (used)

12,000

Installation

10,000

TOTAL $158,900
APPENDIX 3

ESTIMATED VARIABLE COSTS
($/10^3$ Board Feet)

<table>
<thead>
<tr>
<th>Logging Costs</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Felling and Bucking</td>
<td>$ 7.06</td>
</tr>
<tr>
<td>Skidding</td>
<td>8.19</td>
</tr>
<tr>
<td>Loading</td>
<td>2.93</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$ 18.18</strong></td>
</tr>
</tbody>
</table>

<table>
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<tr>
<td>Road Maintenance</td>
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<tr>
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<table>
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</tr>
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<tr>
<td><strong>Total</strong></td>
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</table>

<table>
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<tr>
<td>Overrun</td>
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<tr>
<td><strong>Total</strong></td>
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<table>
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<td>Snag Felling</td>
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<tr>
<td><strong>Total</strong></td>
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</tbody>
</table>

**$ 56.70**

Note: In this analysis the depreciation allowances are included in the "fixed" costs.
### EXAMPLES OF COMPUTER OUTPUT OF BREAK-EVEN POINT CALCULATIONS

<table>
<thead>
<tr>
<th>Case</th>
<th>Operation Period</th>
<th>Years</th>
<th>Expected Annual Qty Processed</th>
<th>BF</th>
<th>Expected Annual Sales Qty</th>
<th>BF</th>
<th>Expected Annual Operating Costs</th>
<th>BF</th>
<th>Expected Still-Age Cost</th>
<th>BF</th>
<th>S/TBF</th>
</tr>
</thead>
<tbody>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>7</td>
<td>5</td>
<td></td>
<td>6.000000E+05</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>37</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Case 1**

**Operation Period:** 10 Years  
**Expected Annual Qty Processed:** 3.000000E+06  
**Expected Annual Sales Qty:** 3.000000E+06  
**Expected Annual Operating Costs:** 67.0  
**Expected Still-Age Cost:** 13.3  
**Selling Price:** 83.0094  

**Case 7**

**Operation Period:** 5 Years  
**Expected Annual Qty Processed:** 6.000000E+05  
**Expected Annual Sales Qty:** 6.000000E+06  
**Expected Annual Operating Costs:** 56.7  
**Expected Still-Age Cost:** 13.3  
**Selling Price:** 81.666  

**Case 37**

**Operation Period:** 10 Years  
**Expected Annual Qty Processed:** 3.000000E+06  
**Expected Annual Sales Qty:** 2.550000E+06  
**Expected Annual Operating Costs:** 67.8  
**Expected Still-Age Cost:** 13.3  
**Selling Price:** 24.6722  

---
### APPENDIX 5

**BREAK-EVEN SELLING PRICE FOR SELECTED OPERATING MODES**

**TABLE I**

\[ n=10, \ i^{*}=.02, \ S=15.79, \ W=56.70, \ X=Z=3 \times 10^6 \]

<table>
<thead>
<tr>
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<th>( E )</th>
<th>( F )</th>
<th>( P )</th>
<th>( V )</th>
<th>( Y )</th>
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</thead>
<tbody>
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<td>150,000</td>
<td>280,000</td>
<td>41,728</td>
<td>210,000</td>
<td>83.91</td>
</tr>
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<td>50,000</td>
<td>150,000</td>
<td>300,000</td>
<td>44,709</td>
<td>210,000</td>
<td>84.90</td>
</tr>
<tr>
<td>3</td>
<td>120,000</td>
<td>50,000</td>
<td>150,000</td>
<td>320,000</td>
<td>47,690</td>
<td>210,000</td>
<td>85.90</td>
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<tr>
<td>4</td>
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<td>53,651</td>
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</tr>
<tr>
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**TABLE II**

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<th>( F )</th>
<th>( P )</th>
<th>( V )</th>
<th>( Y )</th>
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<tr>
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<td>85.86</td>
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### TABLE III

\[ n=10, \ i=.08, \ S=13.30, \ W=56.70, \ X=3 \times 10^6, \ Z=.95X \]

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<tr>
<th>Case</th>
<th>M</th>
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<th>F</th>
<th>P</th>
<th>V</th>
<th>Y</th>
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<td>150,000</td>
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<td>41,728</td>
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<tr>
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<td>300,000</td>
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### TABLE IV

\[ n=5, \ i=.08, \ S=13.30, \ W=56.70, \ X=6 \times 10^6, \ Z=.95X \]

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<th>Y</th>
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<td>150,000</td>
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<td>420,000</td>
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</table>
TABLE V

\( n=10, \ i=.08, \ S=13.30, \ W=67.20, \ X=3 \times 10^6 \)

<table>
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<tr>
<th>Case</th>
<th>M</th>
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<th>F</th>
<th>P</th>
<th>V</th>
<th>Y</th>
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<tr>
<td>26</td>
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<td>30,000</td>
<td>80,000</td>
<td>210,000</td>
<td>31,296</td>
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<td>90.93</td>
</tr>
<tr>
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<td>30,000</td>
<td>80,000</td>
<td>230,000</td>
<td>34,277</td>
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<td>150,000</td>
<td>280,000</td>
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<td>300,000</td>
<td>44,709</td>
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<td>95.40</td>
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<td>150,000</td>
<td>320,000</td>
<td>47,690</td>
<td>241,500</td>
<td>96.40</td>
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TABLE VI

\( n=5, \ i=.08, \ S=13.30, \ W=67.20, \ X=3 \times 10^6 \)

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<th>C</th>
<th>E</th>
<th>F</th>
<th>P</th>
<th>V</th>
<th>Y</th>
</tr>
</thead>
<tbody>
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<td>80,000</td>
<td>210,000</td>
<td>52,596</td>
<td>483,000</td>
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</tr>
<tr>
<td>33</td>
<td>120,000</td>
<td>30,000</td>
<td>80,000</td>
<td>230,000</td>
<td>57,605</td>
<td>483,000</td>
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<tr>
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<td>80,146</td>
<td>483,000</td>
<td>93.86</td>
</tr>
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</table>
### TABLE VII

\( n=10, \ i=.08, \ S=13.30, \ W=67.20, \ X=3 \times 10^6, \ Z=.95X \)

<table>
<thead>
<tr>
<th>Case</th>
<th>M</th>
<th>C</th>
<th>E</th>
<th>F</th>
<th>P</th>
<th>V</th>
<th>Y</th>
</tr>
</thead>
<tbody>
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</tr>
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</tr>
<tr>
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<td>30,000</td>
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<td>34,277</td>
<td>241,500</td>
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<td>150,000</td>
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<td>41,728</td>
<td>241,500</td>
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<tr>
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<td>47,690</td>
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### TABLE VIII

\( n=5, \ i=.08, \ S=13.30, \ W=67.20, \ X=6 \times 10^6, \ Z=.95X \)

<table>
<thead>
<tr>
<th>Case</th>
<th>M</th>
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<th>E</th>
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<th>P</th>
<th>V</th>
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</thead>
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<td>75,137</td>
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<td>483,000</td>
<td>98.80</td>
</tr>
</tbody>
</table>
GRAPH OF PROFIT VERSUS INITIAL INVESTMENT

$/10^3$ board feet

Selling Price

Total Cost (10-Year)

Variable Cost

Total Cost (5-Year)

Profit (5-Year)

Profit (10-Year)

Fixed Cost (10-Year)

Fixed Cost (5-Year)

F, Initial Investment ($)

140,000 180,000 220,000 260,000 300,000 340,000 38
Prepare plan of operation

Prepare Market Plan

Secure Tentative Sales Contracts

<table>
<thead>
<tr>
<th>Specify Equipment Requirements</th>
<th>Locate Equipment and Determine Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluate Sites</td>
<td>Obtain Option on Site</td>
</tr>
<tr>
<td>Specify Building Requirements</td>
<td>Prepare Preliminary Building Plans and Determine Costs</td>
</tr>
<tr>
<td></td>
<td>Prepare SBA Application</td>
</tr>
</tbody>
</table>

Determine Type of Business Organization

Draw up Legal Documents

Secure Non-SBA Sources For Financing

Obtain Options on Off-Reservation Timber

Obtain Options on On-Reservation Timber

CONTINUE TO CONDUCT TRAINING PROGRAM - TERMINATES DECEMBER 31, 1970

CONTINUE TO OPERATE PORTABLE SAWMILL - TERMINATES DECEMBER 31, 1970
<table>
<thead>
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<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
<th>6th</th>
<th>7th</th>
<th>8th</th>
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<th>10th</th>
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</thead>
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<tr>
<td>Foreman, Mechanic and Lead Operator</td>
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<td>800</td>
<td>850</td>
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Nov. 17, 198
R.E. Estes
CASH DISBURSEMENT FOR ROCKY BOY'S SAW MILL

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<tr>
<th>Item</th>
<th>1st 5 Months</th>
<th>Balance</th>
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<td>$12,000</td>
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<tr>
<td>women, Mechanic and</td>
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<td>Lead Operator</td>
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<td>Travel &amp; Per Diem</td>
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<td>1,750</td>
<td>3,350</td>
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<td>Office</td>
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<tr>
<td>Contract Services</td>
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<tr>
<td>Equipment Set-up</td>
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<tr>
<td>Equipment Lease or Rental</td>
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<td>Stumpage &amp; Slash Disposal</td>
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6/1/70
### Cumulative Expenditures and Income - Rocky Boy's Sawmill, 1970

#### Federal

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<tr>
<th>Item</th>
<th>Total Budget</th>
<th>FEB. Budget</th>
<th>FEB. Actual</th>
<th>March Budget</th>
<th>March Actual</th>
<th>April Budget</th>
<th>April Actual</th>
<th>May Budget</th>
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<td>1,000</td>
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<td><strong>Total</strong></td>
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#### State

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<th>March Actual</th>
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<th>April Actual</th>
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<td>Salary &amp; Wages</td>
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<td>Payroll Fringe Costs</td>
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<tr>
<td>Travel &amp; Per Diem</td>
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#### Income

<table>
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<tr>
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<th>FEB. Budget</th>
<th>FEB. Actual</th>
<th>March Budget</th>
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<th>April Actual</th>
<th>May Budget</th>
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<td>Production Receipts</td>
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<tr>
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<td></td>
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</table>

**Note:** The table provides the budgeted and actual expenses and income for Rocky Boy's Sawmill for the years 1970, broken down by month and category. The figures indicate a comparison between planned expenditure and actual spending, highlighting areas where there may be variances or savings. The detailed breakdown allows for a thorough understanding of financial performance and planning for future budgeting.
Mr. Russell E. Estes, Director  
Center for Industrial Development  
and Management Services  
Montana State University  
Bozeman, Montana  59715

Dear Mr. Estes:

This pertains to your request for information regarding Rocky Boy's Reservation forest resource and management program. You requested data concerning allowable harvest levels and available timber stand volumes for both saw timber and post material.

A timber inventory for the Rocky Boy's Reservation was completed in 1963 by K. E. Wood & Associates, Inc. Timber stand data developed from this inventory is shown below:

<table>
<thead>
<tr>
<th>Species</th>
<th>12&quot; DBH</th>
<th>10&quot; DBH</th>
<th>Total Gross</th>
<th>Estimated net volume available for harvest</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Class and</td>
<td>Class and</td>
<td>Volume</td>
<td>MMBM (based on 50% cut and 20% defect)</td>
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<tr>
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<td>13.7</td>
<td>12.9</td>
<td>26.6</td>
<td>10.6</td>
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<tr>
<td>Ponderosa pine</td>
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<td>Douglas-fir</td>
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<td></td>
<td>37.9</td>
<td>16.6</td>
<td>54.5</td>
<td>21.8</td>
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</table>
Lodgepole pine Post Material

<table>
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<tr>
<th>DBH Class</th>
<th>2.5&quot;-5.0&quot; Top</th>
<th>5.5&quot; 7 Top</th>
<th>Total</th>
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<tbody>
<tr>
<td>4.0 (3.0&quot;-4.9&quot;)</td>
<td>3,012,600</td>
<td>-</td>
<td>3,012,600</td>
</tr>
<tr>
<td>6.0 (5.0&quot;-6.9&quot;)</td>
<td>2,639,520</td>
<td>1,319,760</td>
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<tr>
<td>8.0 (7.0&quot;-8.9&quot;)</td>
<td>1,345,140</td>
<td>1,793,520</td>
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</table>

As emphasized in previous discussions, a major constraint in dealing with the Rocky Boy's forest is the small volume of timber present on the reservation. The above data shows a gross sawtimber volume - including the 10" d.b.h. class - of about 55 MBM. An important consideration is that approximately 30% of the total gross volume is in the 10" d.b.h. class, most of which is Lodgepole pine. We estimate that about 50% of the present gross volume is available for harvest as it is overmature, mature, or in poor growing condition because of low vigor or overstocking. Using a defect of 20% for the harvestable stand, a periodic sustained yield cut of about 4 MBM per year for five years or 2 MBM per year for ten years is reasonable. In terms of amortization of sawmill installations, these are small volumes and short periods of time. The allowable cut level includes all stands and species. Obviously, if a portion of the 10" d.b.h. class or old growth Douglas-fir volume is not utilized, lower volumes will be available. Also, any deletions of areas due to difficult accessibility or recreation reserves would reduce volumes available for harvest.

Inventory data for the 4-8 d.b.h. classes indicates that about 10 million fence posts could be harvested from the reservation Lodgepole pine stands. This is a conservative estimate that does not include post material that could be developed from Lodgepole pine occurring in mixed stands or as a by-product of sawlog operations. Volume restrictions due to inaccessibility and distance from developed roads or withdrawal of areas for recreation reserves would also apply to the availability of post material.

At a production level of 1500 posts a day (360,000 a year), the present resource of post material could sustain a 20½ year operation. Assuming the inventory figures to be correct, it is apparent that the controlling factor here would be marketing - the ability to exploit existing markets and to develop new outlets. Initially a portion of the material produced would have to be sold untreated until a supply of dry stock (1½-2 months average drying time) could be accumulated and treated.
The post operation would require some form of quality control to assure proper seasoning and treatment to meet market standards of preservative penetration and retention. Inventory control is also needed as some size classes, particularly the large ones, can accumulate more rapidly than the market can absorb them. We do not have adequate price information for treated fenceposts; however, the sketchy data we do have indicates an average FOB mill price of 50-60 cents per 6½' post. Prices would vary somewhat according to size of post and market area.

For more detailed information regarding post operations, the Extension Service at Montana State University might be helpful. Also, Mr. Bob Crow, Industrial Forester with the Montana State Forestry Office, may be able to provide production and price data for small-scale treating operations.

Please feel free to contact our Forestry staff if we can be of further assistance in this project.

Sincerely yours,

(Sgd) Reinhold Lust
Assistant Area Director

cc:
Bear Paw Development Corporation of Northern Montana (3)
Box 1549
Havre, Montana 59501
Attention: Mr. C. H. Soo

Small Business Administration
Helena, Montana 59601
Attention: Mr. M. E. Powers

Mr. Joe Demontiney, Chairman
Business Committee, Chippewa Cree Tribe of the Rocky Boy's Reservation
Through: Superintendent, Rocky Boy's Agency

Superintendent, Rocky Boy's Agency
AREA STAFF OFFICER'S REPORT

To Superintendent:  
Through: Area Director

Date of Visit:  
November 12, 1969

Name of Staff Officer:  
Paul R. Kipp, Area Forester

Purpose of Visit:  
To meet with Agency staff and others concerning Rocky Boy's proposed timber harvest/manufacturing operations

Key Personnel Contacted:  
Albert W. Trimble, Superintendent
Henry W. Kipp, Natural Resources Specialist
Business Committee of the Chippewa Cree Tribe of the Rocky Boy's Reservation
Joe Demontiney, CAP
Frank Hayes, CAP
Russell Estes, Industrial Development Specialist, Montana State University
Kenneth Wornath, Logger-Mill Operator

Discussions and Findings: We met with the Business Committee in several sessions during the day re potential harvest/manufacturing operations. The situation is this:

1. Delaneys, while retaining an interest in the Rocky Boy's situation, will hold any action in abeyance due to current market conditions and internal demands on their management time and resources.

2. An alternative approach suggested by Delaneys and tentatively laid out by Estes (see attachment) involves a small logging-milling operator with his own equipment as either an interim operator or one that could expand into a larger operation at a later date. This would be an operation that would provide training while beginning operations this winter.

   a. Two basic approaches were discussed, both involving a training grant from OEO although other sources of funding were discussed.
SUBJECT: June 4th meeting - Rocky Boy's Sawmill

The following observations were made during the June 4th visit to the sawmill on the Rocky Boy's Indian Reservation.

It was very gratifying to see a smooth running sawmill operation being conducted on land which stood barren and empty just six months ago. During the past seven months, this concept of a sawmill operation was conceived, accepted by the Tribe and funded by the Office of Economic Opportunity. It has gone from an idea to an operation which as of last Friday was employing 14 Indian people who appeared to be highly satisfied with their employment. The first carload of material from this operation was on the rail siding, ready to be shipped to destination.

The objectives of this project was to:

1. To provide training in logging and sawmill operations.
2. To provide a small scale production unit.
3. Develop the managerial and workers skills required for operating a larger mill in the future.
4. Initiate an action program that will improve the Rocky Boy's forest.
5. Determine the feasibility of installing a $300,000 operation.

I will very briefly describe my interpretation of how today's progress has fulfilled the above objectives.

1. Provide training in logging and sawmill operations.

The logging and sawmill management contractor, Mr. Wornath, reported that he was pleased by the acceptance and progress made by the Indian work force in
learning the jobs. The overall attitude is very good and several people are waiting for an opportunity to become employed on this project. While the mill is now operating, there is still additional people to be trained. The question was raised as to why the original proposal showed that 24 people would be trained when this is a 14 man operation. The reason for this is that:

1. It was anticipated that some losses would occur when people became trained and hence better qualified to accept other employment.

2. A certain amount of loss was anticipated due to a person finding out that he disliked this type of work.

3. It was anticipated that for at least part of the year, a two shift operation would be required.

4. The program was designed to train people who would be employed in the larger operation which is to follow the existing plant.

A careful review must be made at this time to determine what additional training must be done and what funds are remaining for this purpose. If additional training positions above that of the original program can be identified, it will be necessary to seek additional training funds immediately. Forms for describing the training positions, length of training period, training schedule and status of each trainee are being prepared to facilitate the control of the program.

2. Provide a small scale production unit.

The logging and sawmill equipment appeared to be running in a very satisfactory manner and as set up it has the capability of meeting the production presented in the original proposal. This unit is capable of producing between 7-8,000 board feet per day of dimensional lumber and 9-10,000 board feet of railroad ties. The present operations is satisfactory as long as the existing railroad tie contract is available and the timber consists of large Douglas Fir. In the next couple of months, Mr. Wornath, will move in another head rig and start decking smaller saw logs. This will not only enable them to cut smaller timber but will also provide the necessary production alternatives should the tie contract become significantly less attractive. The complete compliment of logging and sawmill equipment has been ideal for the intended purpose of the present 12 month program.

3. Develop the managerial and workers skills required for operating a larger mill in the future.

About one year ago, Mr. Paul Kipp, Mr. Leo Cummins and myself visited with several potential managerial contractors before recommending the present contractor. The results of the selection process and the performance by Mr. Wornath has confirmed that he has the capability of operating a larger mill on this Reservation. As mentioned earlier, the Indian workers have responded very well to this type of work and have demonstrated that the labor force here will provide the necessary manpower for a larger operation. Some of the skills being developed, particularly in the area of handling heavy equipment, will lead to new opportunities in the construction industry.
4. Initiate an action program that will improve the Rocky Boy's forest.

The program has already accomplished the salvaging of a considerable amount of timber that had been docked by the previous sawmill. It has also cleared the forest of many logs that had been fallen in the past years but were never taken from the woods. Many thousands of board feet of lumber is currently being cut from trees which have died from various causes. Without the present sawmill operation this would have not only been a loss of timber but a detriment to the healthy condition of the forest. Additional timber sales are being prepared which will provide the harvest necessary to remove over-mature timber, thin out high density areas and provide access to various areas within the forest. The progress is excellent.

5. Determine the feasibility of installing a $300,000 operation.

The feasibility of a larger operation is conditional on the above items plus the factors of economics and marketing. The managerial contractor and the labor work force appear to have or are capable of acquiring the skills for operating a larger mill in the future. The desire to accomplish this is very positive. The logging conditions and the availability of timber appears to meet the requirements. The present operation was also intended to facilitate the contracting of off-reservation timber. However, as of this date, progress is lacking in this area.

This operation was also to enable the contractor to establish a marketing program which would increase the probability of having good sales outlets when larger volumes of lumber is being produced. This marketing plan will also require a higher level of activity than in the past few months. The current operation will provide the necessary cost data to determine the production methods and costs. This information will be used to determine the market conditions required for a successful operation.

The present success of the sawmill operation is for a large part the result of Mr. Wornath securing the present railroad tie contract. Without this contract, the potential income from the sawmill would be considerably less than what is currently being obtained. This illustrates the value of having a contractor who is associated with a firm that has marketing outlets.

This continued success of this operation is not only dependent on the market but on the production costs. It is for this reason that if this venture is to continue after the subsidy expires, it will be imperative that the manager have final authority on labor rates and hiring practices. It is our suggestion that employment policies be drawn up and put in writing along with published pay scales and fringe benefits. We are assisting Mr. Wornath in preparation of this material.

In general, the budget as originally submitted for this project has been satisfactory. The operating expense, especially gasoline, has been considerably higher than the budget. The other category of concern is that of training funds. To overcome this, emphasis must be placed on getting people off the training status and on production status which means that their pay will come from sales. A more detailed analysis of the budgeted
costs and the actual costs will be forthcoming by Mr. Hayes in two or three weeks but a casual observation indicates that income from production is approximately $12,000 behind schedule. It is recommended that the alternative to overcome this is to add more people to the logging operations and to run the mill on two shifts per day to take full advantage of the present tie contract. There would be little incentive to do this if the products must be sold at $70/per thousand or less but with the present tie contract of $94/per thousand, it appears that every effort must be made to increase the production and efficiencies.

The original project schedule called for action to be taken at this time in order to adequately plan for installing a more efficient sawmill operation on this reservation. In keeping with this schedule, Mr. Wornath will prepare an operating plan which will describe the needs for the next 7 years. Other action items identified were that of obtaining publicity which would assist the marketing efforts and would also encourage the contracting of off-reservation timber. Mr. Frank Hayes is arranging for this coverage. My office will assist Mr. Wornath in designing a marketing plan which will incorporate local sales into the existing sales channels so that the products will be sold where ever the highest price can be obtained. Mr. Hayes will also make a financial projection for the next 6 months and for the total program. Upon completion of preparing the plan of operations, a new projects schedule will be designed and distributed to the respective parties.

Some discussion was held in regard to having the contractor of the sawmill and logging operations also assist with the development of the post plant. By making the post plant a part of the other forest industry operations, one would gain advantage of the managerial skills, the labor force (additional training would be required), and existing marketing organization, the availability of equipment, such as yard loaders and trucks and the fact that the trees for posts could be more economically harvested when done in conjunction with harvesting saw logs.

In summary, I think that the Tribe, BIA, OEO and EDA have done an excellent job in setting up this project and in carrying out the work. If this level of cooperation and hard work continues, the prospects of a continued operation without subsidy looks very promising. The group will meet again in late July or early August for the purpose of reviewing the progress and for planning the work to be done in the coming months. In the meantime, the various action items as outlined at the meeting and mentioned in this report, will be carried out by the respective persons. I wish to thank all of those concerned for attending the June 4th meeting and for your excellent presentations and free exchange of ideas. A special word of thanks is in order for Al Trimble in arranging for the meeting place and to Frank Hayes for his coordinating efforts and follow-up. I would also appreciate your passing a word of thanks along to the others who participated but aren't included on this distribution list such as Joe Demontiney, Ray Parker, Jack Shoemate, Lloyd Billy and others.

Sincerely,

Russell E. Estes
Director
AREA STAFF OFFICER'S REPORT

To Superintendent: Rocky Boy's Agency
Date of Visit: December 2, 1969
Name of Staff Officer: Paul R. Kipp, Area Forester
Purpose of Visit: To meet with Agency staff and others concerning Rocky Boy's proposed timber harvest/manufacturing operations
Key Personnel Contacted: Albert W. Trimble, Superintendent
Henry W. Kipp, Natural Resources Specialist
Business Committee of the Chippewa Cree Tribe of the Rocky Boy's Reservation
Frank Hayes, CAP
Kenneth Wornath, Logger-Mill Operator

Discussions and Findings: Upon arrival at Rocky Boy's, the proposal for OEO funding was shown to me. Briefly it involved:

OEO - Approximately $82,000
Non-Federal - Approximately $90,000

The OEO funding would include trainee, trainer, equipment lease, and incidental costs. This would be available over a 12-month period. A maximum of 24 trainees would be involved. The source of the non-Federal financing was not noted, but in this case it would be the operator (trainer) who would be buying the timber from the Tribe.
Hayes, Kipp and I spent over two hours with the Council discussing
the proposal. Upon completion of this discussion, the Council
approved by resolution the following approach:

1. Timber sale(s) to Wornath from Tribe

2. OEO training program funding and agreement between OEO/
   Tribe and Wornath

3. A sharing (50-50) of receipts from sale of lumber (and any
   other product) manufactured during the period of the
   training agreement after Wornath's out-of-pocket costs are
   met

Hayes is to hand-carry the OEO proposal to Billings on December 4 or
5 where it will be reviewed by OEO personnel (Wilson and Litton).
This basic proposal was prepared by Estes and Hayes. The roles of
the Tribe and the trainer were rather indefinite in one key respect.
The status of the trainer (Wornath) appeared to be that of a paid
employee of the Tribe for the 12-month training period. We feel
that it is vital to have an operator-trainer involved who has a
real stake in making this work—not only for a few months but for
a period of years after the training subsidy is used. The program
as currently OK'd by the Tribe meets this need.

Wornath made no commitment at this meeting and will first clear this
with his backers, but my impression was that he found the package
as outlined above to be satisfactory.

Area Forester

Approved and Transmitted: DEC 4 1969

Area Director
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS
Branch of Forestry

TIMBER CUTTING PERMIT FOR USE BY ORGANIZED TRIBES

Indian______ Non-Indian______ Permit No. 70-6______

ROCKY BOYS Indian Reservation June 1, 1970

Permission is hereby granted to KENNETH WORNATH LUMBER COMPANY

whose address is BOZeman, MONT. to cut and remove in accordance with the regulations on the reverse side of this permit, on or before

July 1, 1970, from the following tribal lands: Township 28 North,

Range 15 East, Section 27, N.E. 3/4 P.M.H. in the Green Canyon Area.

timber of kind, quantity, and price as follows: Douglas fir timber killed by the

Dendroctonus bark beetle. 50 HM 6 9.35/TH. = $ 420.75 + 10% Fee $46.75 $467.50

Stumpage payments under this permit shall be made as follows: By check, cash

or money order to the Bureau of Indian Affairs as indicated below.

by remittance in favor of the Bureau of Indian Affairs and transmitted to the Superintendent, or other authorized representative.

Modification of the requirements on the back of this permit, or other

requirements not stipulated are as follows: All logs will be marked with orange paint

dot and sealed for actual sound board feet contents by the Bureau of Indian Affairs.

Green slash shall be riled for burning in the Fall of 1970. Dry limbs may be limed.

This permit is issued in accordance with the corporate charter of the

CHIPEWA-CREE TRIBE OF THE ROCKY BOYS RESERVATION, MONTANA.

I accept this permit and agree to comply with the foregoing conditions and with the regulations on the reverse side of this permit.

Witness ____________________

Permittee ____________________

Approved: UPON RECEIPT OF STUMPAGE PAYMENT

Approving Officer
CUTTING BLOCK IS APPROXIMATELY
9 ACRES IN SIZE, WITH AN ESTIMATED
8,000 BOARD FEET PER ACRE. DEFECT
ESTIMATED AT 33%. 72,000 bd. ft.
- 23,000 bd. ft. = 49,000 bd. ft. NET SCALE

Douglas Fir Beetle
Salvage Block
Green Canyon II
Lodgepole Unit
United States Department of the Interior
BUREAU OF INDIAN AFFAIRS
ROCKY BOY'S AGENCY
BOX ELDER, MONTANA 59521

Mr. Kenneth Wornath
Garden City Construction Co., Inc.
1809 Agnes Street
Missoula, Montana 59801

Dear Mr. Wornath:

We are forwarding your purchaser copy of scalesheets numbered 262-287, and Sheet 238. Scaling was accomplished by the Bureau of Indian Affairs for all logs coming from the Douglas fir beetle salvage block in Green Creek.

Inspections of this small salvage sale have revealed good utilization of felled timber. Not many high stumps were encountered and those designated by the forester should be cut to regulation heights. Snag falling has been accomplished concurrently with falling and skidding.

Most of the defect in the Douglas fir consisted of sap rot, heart check and pitch ring. Adequate long-butting helped to eliminate some of the latter defects. Information provided from scale sheets will provide you with much needed overrun data and volumes per acre for cost analysis.

Summary of net log scale by species indicates:

<table>
<thead>
<tr>
<th>Species</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Douglas fir</td>
<td>60,280</td>
</tr>
<tr>
<td>Ponderosa pine</td>
<td>3,800</td>
</tr>
<tr>
<td>Lodgepole pine</td>
<td>1,570</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>65,650 Bd. Ft.</strong></td>
</tr>
</tbody>
</table>

Your permit covered removal of only dry standing timber. This provision was modified to allow for removal of high risk, beetle-infested green timber.

We will bill you for the difference remaining between the original 50,000 board feet and final net scale volume. Please let us know when the remaining few loads will be ready for scaling. Thank you for your cooperation.

Sincerely yours,

[Signature]
Natural Resources Specialist
ROCKY BOY'S FOREST DEVELOPMENT AGREEMENT

Authorities

This agreement is made under authority contained in Section 7 of the Act of June 25, 1910 (25 U.S.C. 407) as amended by the Act of April 30, 1964; 25 CFR, part 141; Article VI, Section 1(c) and 1(f) of the Constitution and Section 5(b)(3), 5(d) and 5(e) of the Corporate Charter of the Chippewa Cree Tribe; and the Corporate Charter and By-Laws of Montana Lumber Sales, Inc.

Parties to this Agreement are the Chippewa Cree Tribe of the Rocky Boy's Reservation of Montana, organized under Section 16 of the Act of June 18, 1934, 48 Stat. 984, hereinafter referred to as the Tribe, and Montana Lumber Sales, Inc., of Missoula, Montana, a Montana corporation, hereinafter referred to as the Company.

Definitions. As used in this agreement, the following definitions shall apply:

1. Approving Officer. The Secretary of Interior or his authorized representative.

2. BIA. Bureau of Indian Affairs.

3. RBDC. Rocky Boy's Development Corporation.


5. Reservation. Rocky Boy's Indian Reservation.

6. Management Area. The timbered area of the Reservation as shown on the attached map (Exhibit A).

7. Logging Unit. An area of forest land within the management area from which timber will be harvested by the Company under a timber sale contract or permit.

8. Logging Unit Contract. The following are attached to and made a part of this agreement.

a. Contract Forms 5-611 and 5-612 (Exhibits C--annotated, D, and E). Bureau of Indian Affairs forms executed to convey estimated or predetermined volumes of timber to the Company from the Tribe.

b. Standard Timber Contract Provisions, Form 5-610 (Exhibit B). Contains basic conditions that will apply to contracts executed under this agreement and will be attached to and made a part of each Logging Unit Contract.
c. Permit, Form 5-924a (Exhibit F). Timber Cutting Permit which may be used on a limited basis to convey small parcels of timber to the Company from the Tribe.

d. Bond, Form 5-483 (Exhibit G). Performance bonds will be required for all Logging Unit Contracts executed hereunder. Bond amounts will be based on the initial estimated stumpage value for each Logging Unit as prescribed by 25 CFR 141.


General

1. Purpose. This agreement establishes the obligation, authority, and procedures to convey timber to the Company from the Tribe. Such timber shall be conveyed by means of several Logging Unit Contracts to be made hereunder. Timber so conveyed and non-Indian timber to be secured by the Company shall be manufactured into lumber or other products at a mill to be located on the Reservation. Labor used by the Company shall primarily be drawn from the membership of the Tribe.

2. Effective and Termination Dates

a. The effective date of this agreement shall be the date of approval by the Approving Officer.

b. Termination date. This agreement shall terminate as of 8 years from the date of approval unless extended beyond this date by the principals hereto and approved by the Approving Officer. This agreement may be terminated prior to this date, providing such termination is made in writing by the principals hereto and approved by the Approving Officer and providing further that there shall be no termination prior to the above date so long as the principals have any indebtedness outstanding that is directly related to and contingent upon performance under this agreement.

c. Logging Unit Contracts entered into prior to the date of termination of this agreement shall continue in force until all contractual obligations are completed and individual Logging Unit Contracts are terminated.

3. Modification Procedures. Conditions set forth herein may be modified only through agreement in writing between the principals hereto and approved by the Approving Officer.
4. Disputes. Disputes that arise as a result of any action or decision made under this agreement shall be resolved in accordance with Section 2(i) of the Standard Timber Contract Provisions.

5. Appeals. Appeals arising from decisions made under this agreement shall be resolved following procedures in Section 2(j) of the Standard Timber Contract Provisions.

6. Timber Sold. The Tribe agrees to sell to the Company, and the Company agrees to purchase by entering into timber sale contracts for individual Logging Units in accordance with the terms herein and in the Logging Unit Contracts to be made hereunder all sawlog timber to be designated for harvest by BIA.

It is understood that the sawlog timber volume designated for harvest shall be the periodic allowable cut for the Reservation of approximately 3 MMBM net Scribner Decimal C log scale per year for a production period of approximately 7 years.

7. Timber to be Reserved. Timber may be reserved from cutting along streams and roads, in the vicinity of campgrounds and recreational areas, and in immature stands or other areas where no harvest or little or partial harvest of sawlog timber will be allowed for silvicultural or other reasons. It is understood that the Tribe may authorize sale or use of timber other than sawlog timber as defined herein. Also, the Tribe may authorize use of or sale of minor volumes of sawlog timber, not to exceed 75 MMBM per year, by or to its own members.

8. Estimated Volumes

a. Timber concerned is all tribal sawlog timber that BIA designates for cutting, consisting of approximately 3 MMBM net Scribner Decimal C log scale per year for a production period of 7 years. Sawlog timber is defined herein and in Logging Unit Contracts to be made hereunder as coniferous trees that will produce at least two logs 8 feet long plus trim allowance, that are at least 6 inches in diameter inside the bark at the small end, and each log having a net Scribner Decimal C log scale of at least 5 board feet.

b. Estimated volumes and condition of sale shall be further defined in the specific Logging Unit Contracts which shall be entered into by the Tribe and the Company.

9. Stumpage Rates

Rates will be determined for each Logging Unit Contract. Initial stumpage rates for each unit will be appraised by BIA using U. S. Forest Service, Region 1, East Side cost and value data. Allowances for depreciation as
accurately as BIA can determine will be deleted from Region 1 milling costs, and a local depreciation rate will be substituted therefor. This local depreciation cost will be based on the depreciation schedule for the sawmill and related structures and equipment to be owned by RBDC and will be based on an assumed minimum production of 5 MMFBM per year net Scribner Decimal C log scale for a period of 7 years. This schedule may be reassessed any time after the agreement is in effect for two years, and depreciation cost used in appraisal of subsequent Logging Units may be based on the actual volume of timber processed if it is apparent that continued annual production will significantly exceed 5 MMFBM net Scribner Decimal C log scale. This cost will be determined by BIA.

Product values used in these appraisals shall be based on appropriate USFS, Region 1, East Side value data. These, product values shall be adjusted to the most recent quarter-annual (full 12 weeks) period preceding appraisal of each Logging Unit by using the ratio of Random Lengths data for the period for which product value was established by the USFS to the Random Lengths value for the quarter-annual (full 12 weeks) period preceding appraisal. The USFS product value will be multiplied by this ratio to establish the product value for appraisal purposes. The quarter-annual periods shall be the 3-month (full 12 weeks) periods beginning January 1, April 1, July 1, and October 1. Should data as published by Random Lengths become unavailable or cease to adequately reflect market trends, the Approving Officer may, after consultation with the Company and RBDC, utilize suitable data published by Western Wood Products Association in the same manner as outlined herein for Random Lengths data.

Appraisals shall use a 15% profit and risk factor (1.15) in determination of stumpage rates as follows:

\[
\frac{\text{Product Value}}{1.15} - \text{Cost of Production} = \text{Initial Stumpage Rate}
\]

Initial stumpage rates shall be adjusted as of the first of each month following the date of approval of the individual Logging Unit Contracts. Such rate adjustments shall be 50% of the difference between the Random Lengths data as used to establish product value at time of appraisal and Random Lengths data for the month (full four weeks) preceding the date each rate adjustment becomes effective. It is understood, however, that Logging Unit Contracts made hereunder for Logging Units of less than one million board feet estimated net volume Scribner Decimal C log scale may be made without provisions for stumpage rate adjustments.

Minimum stumpage rates for green standing timber shall not be reduced below $3.00 per MMFBM Scribner Decimal C log scale in Logging Unit Contracts made hereunder. Further, minimum stumpage rates for green standing timber in any Logging Unit Contract shall not be less than 50% of the initial stumpage rate.
10. **Merchantability.** Merchantability standards shall be included in each Logging Unit Contract made hereunder and shall require that logs, or 16-foot segments thereof, shall be at least one-half sound. Further, logs brought to the BIA scaling point that are less than one-half sound will be charged for at a wood log rate of $1.00 per MBM gross Scribner Decimal C log scale or 20% of the stumpage rate being charged for timber that is one-half or more sound, whichever is the higher rate.

11. **Utilization.** Trees designated for harvest shall contain at least two 8-foot logs with 6-inch scaling diameters and each log having a minimum net scale of 5 board feet.

12. **Volume Determination**
   
a. Section 7(a), (b), (c), and (e) of the Standard Timber Contract Provisions shall apply in Logging Unit Contracts to be made hereunder, except that these contracts shall provide for trim allowances appropriate for a stud operation. Such trim allowances shall not exceed 6 inches per 8-foot log segment. Further, unmerchantable material as defined herein presented for scaling will be scaled for its gross volume and charged for at a wood log rate as defined in Section 10 herein and to be further defined in Logging Unit Contracts made hereunder. Section 7(d) of the Standard Timber Contract Provisions shall not apply in contracts to be made hereunder.

b. The Company and/or RBDC, the Tribe, and BIA will enter into a cooperative scaling agreement, subject to applicable law and regulation, that will provide the Company with periodic log scale data for both Indian and non-Indian timber.

13. **Logging Requirements.** Section 8 of the Standard Timber Contract Provisions shall apply in Logging Unit Contracts to be made hereunder.

14. **Slash and Snags.** Section 9 of the Standard Timber Contract Provisions shall apply except that Logging Unit Contracts made hereunder may provide for slash disposal methods other than piling and burning. Also, said contracts shall provide that snags 10 inches or more in diameter at breast height and 16 feet in height shall be felled within those areas logged.

15. **Non-Indian Timber.** It is understood that the Company shall make all reasonable efforts to secure as great a volume of timber as is feasible from owners of non-Indian timber near the Reservation during the period of this agreement.

16. **Manufacturing**
   
a. The Tribe shall make a suitable plant site available by lease to RBDC. RBDC shall provide a sawmill, appurtenant structures, and equipment on a suitable site by lease through a separate agreement with the Company.
b. All timber logged by the Company from the Reservation and from non-Indian land within 10 miles of the Reservation boundary shall be processed to a finished-lumber stage on the Reservation. However, minor volumes of rough lumber and other wood products may be sold locally.

17. **Employment.** Essentially all employees other than key skilled personnel shall be members of the Tribe. Within this constraint, the Company shall have full control over employment policies in accord with applicable laws.

18. **Training Provisions.** During an initial period of operations, the BIA and/or the Tribe shall arrange for or provide for personnel training programs needed by the Company, subject to availability of funds, and the Company shall enter into any agreements necessary to utilize these training programs.

19. **Assignment of Agreement.** This agreement and all Logging Unit Contracts made hereunder may be assigned subject to acceptance by the principals hereto and approval by the Approving Officer and by any lender(s) having an interest in this agreement by reason of indebtedness, repayment of which is contingent on performance under this and related agreements.

Signed and sealed in sextuplet.

**Purchaser:** Montana Lumber Sales, Inc.

By ____________________________  (Date)

Title: __________________________

**Seller:** Chippewa Cree Tribe of the Rocky Boy's Reservation

By ____________________________  (Date)

Title: __________________________

**Approving Officer:**

______________________________  (Date)

Commissioner of Indian Affairs