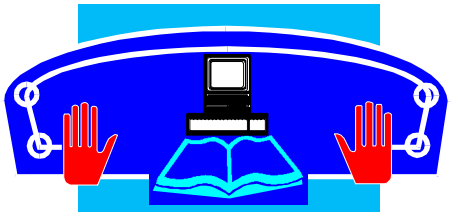

Feasibility Study; Yukon Tree Seedling Nursery
Type of Study: Resource Management
Forestry, Canada And Int. Forestry Papers
Date of Report: 1988
Author: Reid Collins And Associates
Catalogue Number: 4-8-2

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APPENDICES

Reid Collins

1.0 INTRODUCTION

In response to a Request for Proposals from the Department of Economic Development, Government of Yukon, Reid, Collins submitted the winning proposal .on September 9, 1988. Contract No. GN-88-07-3021-02275 (Appendix I) was signed by both parties in early October.

Reid, Collins and Associates Limited were to prepare a Report entitled "Yukon Tree Seedling Nursery Feasibility Study" for a total cost of S29,500.00, in accordance with the contract specifications by December 16, 1988.

Ten copies of this Report are herewith submitted.

Reid Collins

2.0 SYNOPSIS

The type of nursery recommended is a low-technology container nursery growing 2+ pine seedlings in 313B styroblocks. The preferred location is Watson Lake.

Selling price of 18.5¢/seedling is based on British Columbia competitive prices stock delivered to Watson Lake.

The potential market is in the 3 to 5 million seedlings/year range. Capital costs a as follows:

1 MM/year production	-$ 0.4 million dollars
3 MM/year production	-$ 0.8 million dollars
5 MM/year production	- S 1.2 million dollars

Six optiona were investigated; i.e., the above three production levels each with ar non-repayable grant equal to 40% of capital cost. Only the 5 MM/year production 1 non-repayable grant is viable; the rest are not.

The analysis is extremely sensitive to seedling pricing. With the grant, the 3 MM/ viable at 20¢/seedling, and the 1 MM/year level at 290/seedling.

Reid Collins

3.0 METHODOLOGY

The methodology employed wss: to set down a series of key sequential questions or issues; to utilize various team members to investigate and provide information about these issues; to make decisions based on this information; and to prepare pro-forma capital and operating statements relevant to various market (revenue) scenarios.

- What type of seedling will have optimum survival rates in Yukon conditions, and still be cost effective

The investigative procedures included a literature' search of local libraries; telephone contact with northern foresters and nursery managers; collection of the last 10 to 30 year climatic data; and discussions with forestry staff at Whitehorse and Watson Lake.

The conclusion arrived at was that the most cost-effective seedling would be 2+0 stock grown in a relatively large 313B styroblock container.

The Consultant points out that resolution of this question is fundamental to nursery design. Proper field testing of various seedling sizes and types should be undertaken in the immediate future on representative sites throughout the southern Yukon.

- What type of nursery is recommended*.

The Consultant considered four basic approaches; i.e., bare-root, plug + year transplant, container (1ow technology), and container (hi-technology).

The bare-root and plug plus transplant options were discarded, primarily based on assessment of the risk factor involved in protection over winter. Most bare-root nurseries rely on snow and/or shelters for winter protection. The combination of low annual snowfall, extreme cold spells with high wind potential, and occasional unexpected winter high temperatures make any overwinter outside protection program too risky, especially for an enterpreneur venturing his own capital.

The hi-technology container nursery was discarded because of capital cost related to volume of production.

The low-technology container nursery was chosen because of its relative efficier volume, and also because it is believed that the higher comc@nent of Iabour utilizat better with Yukon Governments' goals and objectives.

. "What location within the Yukon is best?"

Three locations were considered: Mayo, Whitehorse and Watson Lake. ' The Consult the latter two.

Mayo was least attractive in terms of distance from plantable areas, infrastructure, 1: and climatic conditions.

Whitehorse offered several advantages in terms of infrastructure, Iabour supply, a and living conditions. A possibility also exists for combining a forest seedling nu current (or proposed) greenhouse operations producing lettuce, tomatoes, cucumbers, e

The consultant considered that Watson Lake was the most attractive in terms of:

- distance to planting sites
- enthusiasm and cooperation of city elected and administrative officials
- cheap land coats
- potential savings in heat and power costs
- acceas to northern B.C. market and to N.W.T.

. What is the market potential?"

The Consultant obtained recent forest inventory data in the Yukon and made initia magnitude calculations regarding back-log reforestation requirements. In additio were made in Alaska, British Columbia, N. W.T., and Alaska.

The market potential is, in the Consultant's opinion, far greater than the one n called for in the contract specifications. The volume, of course, drastically affects fe:

For purposes of illustration, the Consultant chose to present three options: one, thr million seedlings/year.

Reid Collins

4.0 NURSERY/SEEDLING STOCK TYPE SELECTION

4.1 General

There has been little, if any, reforestation planting in Yukon outside of very recent trials undertaken by the Yukon Forest Service in the Tahkini area near Whitehorse and in the Hyland River area near Watson Lake. Therefore, there is little background data or experience on which to base appropriate stock type selection. The consensus of resident Yukon foresters was that a "sturdy" stock type was preferable, with emphasis on stem caliper.

4.2 Bareroot/Transplant Nursery

Consideration was given to either a 2+0 bareroot or a plug + 1 transphtnt seedling nursery. A critical factor in northern nursery practice is the overwintering of crops, particularly in open beds, as would be the case with the above two stock types. To overwinter such crops successfully it is essential to have a reasonably heavy snow cover accumulating early in the season and remaining well into spring.

A review of climatological records (see Appendix III) for the Yukon indicates minimal snow cover in the Southern Yukon throughout the winter, particularly in the Whitehorse area. In addition, the very low winter temperatures and frequent high winds suggest that overwintering seedling crops in outdoor conditions is extremely risky. Some consideration was given to the use of snow-making equipment but initial investigation indicated that the potential for malfunction of this equipment presented too great an element of risk.

Finally, review of soil type maps for the southern Yukon revealed very few areas with soil conditions necessary for bareroot/transplant nurseries. In addition, access to nursery beds is limited during spring break-up periods.

4.3 Greenhouse/Container Nursery

There is little question that container seedling production under greenhouse conditions is best suited to Yukon conditions. Generally accepted nursery practice in both northern and southern regions of Western Canada is to produce 1+0 plug seedlings, packaged after one growing season and held dormant in cold storage units until outplanting the following spring. Scandinavian

nurseries generally follow a similar practice, producing 1+0 plug seedlings which ov outside in the containers under snow cover. The Scandinavian practice is not appli Yukon as previously discussed. Further, cold storage should be avoided if possible, a costly procedure undesirable from the point of view of future seedling survival and grow

The production regime most suited to Yukon conditions would be 1+0 styroplug seedlin in early spring and planted in late July/early August of the same year. Northern I Alberta nursery practices is to sow in late March, when the risk of extremely low tern conditions is greatly reduced. However, sowing this late it is not possible to prod seedlings suitable for planting in late July/early August. Sowing six weeks earlier. February could produce a plantable seedling by July but, only with significantly increa Extreme temperature conditions are almost assured during February and any malfur heating equipment, however brief, would result in crop loss. Further, heating costs v much higher during that six-week period. In addition, the lower light intensities at t of year could result in problems of unknown magnitude. It is likely that grow-lights v required with attendant increased costs.

In view of the foregoing, the recommended nursery production system for Yukon cone sowing in early May, utilizing 313B styroblocka for Spruce and Pine. Winter wea conditiona are substantially reduced, heating costs are significantly lower and two months growth can be achieved before plants set bud in late July. Seedlings are ret the greenhouse through the following winter where low heat can be introduced during of extreme cold and wind-chill. This crop can be moved to outside compounds in la before flushing, so that a new crop can be sown in the greenhouses in early May. I system in outside compounds would be u&d to control frost conditions. Crop #1 would a full season's growth in year 2 with field outplanting occurring in late July/early Aug product would essentially be a 2+0 seedling fulfilling the requirement for a "larger" To produce an even larger seedling for the wetter, high site areas a 415B styroblock used under the same growing regime.

4.4 Location

Three areas were assessed as potential locations for a seedling nursery or nurseries, central Yuk"on, Whitehorse in southwest Yukon and Watson Lake in southeast Community profiles were reviewed for each in terms of population, skilled and

employment potential (see Appendix IV), service facilities, etc. together with accessibility to potential markets and greatest forest activity.

Mayo was eliminated from further consideration on all counts, at least for the foreseeable future. Either Whitehorse or Watson Lake would be suitable.

The population base of the City of Whitehorse is more than half the total population of Yukon presenting some definite advantages in considering a new enterprise. There should be greater potential for drawing both the skilled and unskilled workforce necessary to a seedling nursery. Similarly, there should be a greater potential entrepreneurial base interested in developing a seedling nursery and/or combining it with other greenhouse/nursery operations such as lettuce, tomatoes, trees and shrubs and bedding plants. Further, this population has resulted in a developed service sector capable of providing a wide range of supply items as well as the necessary trades skills.

Whitehorse city limits are widespread and siting a seedling nursery within reasonable distance of the City would almost certainly be within those limits. Land does not appear to be readily available and those parcels that are available are costly. In addition, utilities are expensive in the Whitehorse area.

One further disadvantage to a Whitehorse location is the distance from both present markets and those with greatest future potential.

The town of Watson Lake has a much smaller population base than Whitehorse but also fewer employment opportunities. There is little doubt that the seasonal workforce required by a seedling nursery would be available.

Land and utility costs are lower in Watson Lake and it is highly probable that the township would be prepared to offer significant incentives toward establishing a seedling nursery in the area.

David Collins

While there would appear to be limited opportunity to combine seedling production wit nursery production operations there could be a beneficial link with the sawmill and activity already located in and around Watson Lake. The possibility of utilizing low-cos and hot water heating from the sawmiil warrants further investigation.

Perhaps the greatest advantage to locating in Watson Lake is the proximity to not o present market area but also direct road access to potential B.C. and N.W.T. markets.

Reid Crowther

5.0 MARKETING POTENTIAL

5.1 General

There are a number of markets potentially available to a seedling nursery located in the Yukon and each of these has been reviewed in terms of potential volume, pricing and competition. Most important, however, is the market potential within Yukon itself as this will ultimately determine the feasibility of establishing a seedling nursery in the Territory.

5.2 Yukon

The most immediate market is for seedlings to replant the areas denuded through annual harvesting operationa. The area logged annually by Hyland Forest Products is estimated at 250 to 300 hectares. Thus the number of seedlings required annually to replant current cut areas is between 250,000 and 300,000. Backlog NSR cutovers of some 500 hectares will add to this requirement.

The main Yukon market for seedlings lies in an appropriate backlog program required for reforestation of fire-killed stands. The Yukon reconnaissance inventory of 1985 suggests there are approximately 2.2 million ha. of NSR productive forest land. Of this, 1.6 million ha. is said to be unproven NSR and 600 thousand ha. definite NSR. Assuming that 50 percent of the unproven NSR proves to be stocked; that only "good" and "very good" site classes (9 percent of total NSR) wiI1 be planted; that only so percent of these "good" and "very good" sites are reasonably accessible; and that backlog NSR planting will be spread over 20 years, some 3.2 million seedlings would be required annually for a minimal backlog reforestation program.

Further, it is the Consultant's opinion that, within the foreseeable future, there will be demand for significant development of Yukon forest resources and thus an ongoing need for forest seedlings. This is evidenced by the Makin interest in a Yukon pulp chip supply, and by the advent of greenfield pulpmills in both northern B.C. and Alberta.

The pricing for seedlings produced in Yukon would logically be at a level competitive with similar seedlings delivered from northern British Columbia nurseries, calculated to be 18.5 cents per seedling for 2+0 Spruce and Pine.

5.3 N.W.T

The most likely market, outside Yukon, for Yukon seedlings is the North West Territc N.W.T. Department of Renewable Resources estimates an annual requirement for at million seedlings. This does not include any backlog reforestation.

While this market could be best served from Watson Lake, there would be competi northeastern B.C. nurseries as well as from Alberta nurseries.

5.4 Northern British C O] '*

There is a potential market for Yukon seedlings in the northern area of B.C. These example, Fort Nelson, can be serviced just as readily from Watson Lake as from Prin or Fort St. John. However, price competition is already severe among British nurseries and will only become more severe. It is reasonable to expect that a Yukc could capture a market of around 0.5 million seedlings annually.

5.5 Northwestern Alberta

Capturing any significant market volume in Alberta is considered unlikely. Experi Alberta suggests limited market potential and only at unacceptable price levels. In the Alberta market is geared to seedIings produced in Spencer-Lemaire containers, wh problems for a small nursery utilizing styroblocks or other containers.

5.6 Alaska

The Consultant retained Cal Kerr, a consulting forester in Anchorage, Alaska, to give report on the status of reforestation in Interior Alaska (see Appendix VI).

His report indicates that seedling demand is approaching one million/year; currer production is about 0.4 million/year; current prices for 1+0 spruce in 4 cubic inch I tubes is CSO.40 to 0.50 each, and that there may be a limited market potential for based nursery.

Reid Collins

5.7 Summary

In summary, it is obvious that the forest resources of Yukon will soon be required to support industrial pulp mills, whether they are located in Yukon or adjacent provinces. It is also obvious that treatment of Yukon's backlog NSR situation is required now, so that a supply of wood fibre for northern mills will in fact, be there 50 and 70 years from now,

The treatment of 3 000 hectares/year, as suggested in this report, is minimal - less than 1%/year of the backlog.

It is the Consultant's strong belief that the Government of Canada, in the last decade, has come to realize that neglect and depletion of Canadian forests can no longer be tolerated. The forests of the Yukon are just as Canadian as any other and will serve as sources of recreation, raw material and jobs for many future generations if adequate attention to reforestation requirements is given now.

6.0 ECONOMIC ANALYSIS

6.1 General

The establishment of the nursery is to be undertaken by the private sector. Consultant's opinion that an entrepreneur risking capital in a venture of this na require a minimal ROI of 15% in real terms (excluding inflation).

Greenhouses are to be free standing standard steel construction covered with a clout inflated polyethylene. Benching is to be inexpensive treated wood construction desi a static system or concrete block supports. A static irrigation system is envisaged a moving boom system. Heating is to be propane fired forced air under bench h outdoor growing compound complete with benching and static irrigation system whic serve as a spring "frost-control" system. Basic hand mixing, block filling and vacu equipment is specified. Fully automated systems are not" justified at envisaged foreseeable levels of production.

Capital costs are estimated based on southern B.C. costs with a "Yukon factor" of added. A contingency factor 10 percent is added annually to operating costs a unanticipated costs and/or a major production falldown every four to five years.

Revenues are based on average B.C. pricing to date increased by "Yukon" tra differential. Further, in order to ensure a viable enterprise a five year contract with a progress payment schedule as presently used in B.C. viz; 35 percent of contra completion of sowing; 20 percent on first inventory in September of first year; 15 second inventory in May of second year; and balance (30 percent) on shipping in July second year.

A 5 percent inflation factor is included in both revenuea and costs each year.

6.2 Funding

A large number of assistance programs are available for the entrepreneur develo labour-inte&ive business in the Yukon. The usefulness of these programs is enha *one stop shop" approach of the Yukon Business Development Office.

Ken Collins

Programs providing financial and employment incentives include:

- Industrial and Regional Development Program - DRIE
- Federal Business Development Bank - DRIE
- Yukon Business Loans Program - ECDEV
- Economic Development Program - INAC
- Canada-Yukon Job Development - EDUC
- Job Entry - CEIC
- Yukon Employment Incentive Program - EDUC
- Youth Employment and Training Program - EDUC
- Skill shortages - CEIC
- Outreach - CEIC
- Yukon Energy Alternative Program - ECDEV
- Saving Energy Action Loan - ECDEV
- Canada/Yukon Renewable Resources Subagreement - RRES/INAC
- Farm Credit Loans - AGR
- Canada/Yukon Small Business Incentives Sub-Agreement - ECDEV

Several of these programs would be of great assistance in initial training, employment and getting the nursery started. The major program affecting long-term viability of a Yukon-based nursery is the Canada/Yukon Small Business Incentives Sub-Agreement. Under this program, the enterprenieur can receive a repayable or non-repayable contribution up to 50% of eligible capital costs not exceeding $2 million.

For illustrative purposes, two funding scenarios have been analyzed at all three production levels. i.e.,

1. . Equity - 20% of capital required.
   . 10-year Mortgage Loan @ 11%-80% of capital required.
   . Line-of-Credit Working Capital @ prime + 1½%.

Reid Collins

2. . Equity - 20% of capital required.
   . Non-repayable Contribution - 40% of capital required.
   . 10-Year Mortgage Loan @ 11%-40% of capital required.
   . Line-of-Credit Working Capital @ prime + 1}%.

6.3 Operating Statements

The analyses which follow show the capital costs, revenues, operating costs and f figures for each of three production levels - 1.0 million, 3.0 million and 5.0 million per year. Table I summarizes operating figures b&d on 20 percent equity financir percent conventional financing. Table 11 summarizes operating figures based on 2 equity financing, 40 percent conventional financing and 40 percent forgivable grant Yukon Territorial Government A sample of the 5 million seedling/year statement is Appendix IV.

TABLE I

OPERATING STATEMENT SUMMARY
(Without Grant - *in* Thouaand Dollars)

Production Level	Item	Ye - 1	2	3	4	-
1 MM/year	Revenue	102	189	199	210	219
	cost of sales	57	85	93	98	101
	Overhead and Administration	76	88	92	97	102
	Depreciation	24	46	40	34	30
	Financing - Working Capital	6	22	32	44	60
	Financing - Long Term Debt	31	32	30	27	25
	Profit (Loss)	(92)	(84)	(88)	(90)	(99)
3 MM/year	Revenue	305	568	598	631	657
	cost of sales	191	290	317	332	360
	Overhead and Administration	99	128	135	142	148
	Depreciation	49	94	84	74	68
	Financing - Working Capital	13	37	38	40	49
	Financing - Long Term Debt	59	60	56	51	46
	Profit (Loss)	(106)	(41)	(32)	(8)	(14)
5 MM/year	Revenue	509	946	997	1052	1095
	Cost of Sales	295	447	489	513	559
	Overhead and Administration	122	168	178	186	195
	Depreciation	82	156	140	124	113
	Financing - Working Capital	19	49	36	23	18
	Financing - Long Term Debt	91	94	87	80	71
	Profit (Loss)	(100)	32	67	126	139

Reid Krollins

TABLE II

OPERATING STATEMENT SUMMARY
(With Grant - in Thousand Dollars)

Production Level	Item	Year 1	2	3	4
1 MM/year	Revenue	102	189	199	210
	Cost of Sales	57	83	92	98
	Overhead and Administration	76	89	93	98
	Depreciation	24	46	40	34
	Financing - Working Capital	12	18	23	30
	Financing - Long Term Debt	16	16	15	12
	Profit (Loss)	(83)	(63)	(64)	(62:
3 MM/year	Revenue	305	568	598	631
	cost of sales	191	290	317	332
	Overhead and Administration	99	128	135	141
	Depreciation	49	94	84	74
	Financing - Working Capital	24	29	23	16
	Financing - Long Term Debt	29	30	28	26
	Profit (Loss)	(87)	(3)	11	42
5 MM/year	Revenue	509	946	9%	1052
	Cost of Sales	295	447	489	513
	Overhead and Administration	121	168	177	J86
	Depreciation	82	156	140	124
	Financing - Working Capital	36	37	19	5
	Financing - Long Term Debt	46	47	44	40
	Profit (Loss)	(71)	91	127	184

6.4 ROI Analysis

Ten-year cash flow analyses were prepared based on the operating statements from 6.3 above. A terminal value in the 1 Ith year was calculated based on disposal of the nursery at a price equal to the 1 Ith year cash flow capitalized at 15%. The analyses solved for the internal rate of return (IRR) on invested capital i.e., on equity capital and long-term debt.

The non-repayable grant and Line-of-Credit working capital were not included in invested capital.

TABLE III

INTERNAL RATE OF RETURN (%)
(in real terms, excluding inflation)

	Production Level		
	1 MM/yr.	3 MM/yr.	5 MM/yr.
With Grant	Neg.	4.5%	16.3%
Without Grant	Neg.	Neg.	2.7%

A further analysis was made to determine pricing of seedlings required to give a 15% real rate of return on invested capital.

TABLE IV

SEEDLING PRICES REQUIRES FOR 15% REAL LR.R.

	Production Level		
	) MM/yr.	3 MM/yr.	5 MM/yr.
With Grant	29$	2oa	18¢
Without Grant	36@	25@	22¢

Reid Collins

7.0 STRATEGIC PLAN

7.1 Government Policies and Objectives

The establishment of a forest seedling nursery in Yukon is consistent, with gover objectives in a number of areas. Up to the present time neither trees harvested by com timber operations nor those lost to forest fires have been replaced under any t management plan.

Yukon's forest resource goals, broadiy stated, are' "to manage the forest for the Ion social, economic and environmental benefit of Yukoners"[1].

If this goal is to be achieved, pianning must begin immediately. Furthermore, Consultant's opinion, large-scale pulpwood utilization of Yukon's forest resource i inevitable and imminent. This development is not oniy naturai and desirable for Y economic future, but also is compatible with Yukons forest resource goals.

Planning toward self-sufficiency in production of seedlings for reforestation, is required government's objective of building a Conversion Strategy for the Yukon. Further Agreement 14 of the Yukon L?nd Claim Framework Agreement provides for the managen all Yukon forests.

Finally, wherever established, there is little doubt that a seedling nursery can opportunities for Yukon Indians as well as community-ievel socio-economic benefits.

7.2 Critical Factors

The feasibility of establishing a seedling nursery in Yukon and producing 1.0 to 5.0 seedlings annually is not a justifiable objective in itself. It is part of a total planni implementation process for maintaining Yukon's forest resource.

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[1] A Forest Tenure System for the Yukon - Colin Heartwell - 1988 (unpublished).

" Reid Hallins

A good quality seed is essential. It is estimated that to produce 3.0 million seedlings (60 percent white spruce and 40 percent lodgepole pine) approximately 8 kg. of white spruce seed and 6 kg. of lodgepole pine seed are required annually. This translates into approximately 12 hl. and 28 hl. of cones respectively.

The export demand for seed of these species, particularly lodgepole pine, is declining but, even at present levels the combined export demand and projected domestic demand does not justify a seed extraction plant for the Yukon. White spruce seed crops are cyclical while lodgepole pine crops are annual. It is recommended that commercial tree seed firms be contracted to collect cones, extract and store seed in good crop yeara sufficient to support ten years requirements on a continuing basis. The total cost of a 10-year seed supply for 3 million seedlings/year is estimated at some $100,000, of which approximately 60% will be expended on employment of Yukon citizens.

A second factor affecting seedling nursery production is the actual program for planting the trees produced.

The nursery and stock type recommended in this study has been selected in part for its suitability to summer planting, which is considered to be the preferable time for the Yukon. Cold storage of seedlings, which is both costly and undesirable, has been avoided, planting contractors are more widely available during the summer months; access to many planting sites is as good as it can be at times when tree planting is possible at all, and summer planting of wetter spruce sites generally show higher survival rates than in other seasons.

Assuming a production level of 3.0 million seedlings annually, a planting rate of 1,000 seedlings per man-day and a planting season of 30 days, a planting crew of 100 people would have to be mobilized. The logistical problems arising from the time and access constraints, while not insurmountable, must be considered and worked out prior to seedling production coming on stream.

A third factor is, of course, site preparation. Whether burning or mechanical treatment is required, the sites must be properly prepared or planting can be a futile effort both from resolution of logistical problems and from plantation survival results.

Reid Collins

The most critical factor is planning and implementation. The backlog areas must be and site preparation and seedling prescriptions developed. Financial and political co is required. A reforestation - silvicultural section, probably within the Yukon Fore must be organized and funded.

7.3 Implementation

Implementation of a viable private-sector forest nursery should not pose a problem, critical factors discussed *in* 7.2 above have been resolved. At that time, the Yukon Government could offer a 5-year renewable contra&t for purchase of specified numbe of forest seedlings grown in the Yukon. The private sector would respond wi proposals. The successful entrepreneur would enter into a contract with t government, and would construct nursery facilities in accordance with both this co his vision of future and adjacent market potential.

Reid Collins

8.0 SUMMARY AND RECOMMENDATIONS

The foregoing study indicates that a private sector forest nursery located in Watson Lake could be viable at a 5 million/year seedling production level, assuming competitive seedling prices.

However, in the Consultants opinion, this study, although useful from the viewpoint of developing relative capital and operating costs for various production levels, may be a "cart-before-the-horae" situation, in that tree seedling nurseries should be designed for production of a specific number and type of seedlings. These questions must be resolved first; then a nursery can be developed.

The Consultant suggests that the Yukon Territorial Government consider appointing a two-man team, probably from the Yukon Forest Service and the Canadian Forestry Service, to develop a preliminary 10-year reforestation plan for the Yukon. This should be carried out breed on current levels of knowledge and information, and should be prepared within six months of initiation.

This plan would set out a basis for funding, supervision and subsequent action. The plan would be amended periodically on basis of new developments, information and studies. If accepted in principle by the Federal Government, a significant action will have been taken to ensure that the importance of Yukon's forest resource in Canada's economic and environmental future has been recognized.

The Consultant also suggests that the Yukon Government immediately place sowing requests with commercial nurseries for, say, 100,000 2+0 313B spruce - pine seedlings for delivery in July, 1990. operational field trials of selected stock types are needed to confirm nursery design chamcteristics.

APPENDICES

Reid Collins

APPENDIX I

CONTRACT

Yukon
Government Services

NOV 2 0 1988

GOVERNMENT CONTRACT

GN ~~88871XXX~~ GN-88073021-

THIS CONTRACT IS INVALID UNLESS NUMBERED AND CERTIFIED BY SUPPLY SERVICES
GN-88-07-3021-0[redacted]02275
SUPPLY SERVICES

IN CONTRACT WITH:

CONTRACTOR'S NAME & ADDRESS

Reid, Collins & Associates Ltd.
Suite 1550 - 401 West Georgia Stree
Van couver, B. C.
V6B 5A1

FOR:

GENERAL DESCRIPTION

Yukon Tree Seedling Nursery Feasibili Study

LOCATION Yukon

DETAILS OF TERMS AND CONDITIONS OF CONTRACT	UNIT PRICE	EXTENDED TOTAL
Examine the feasibility of growing white spruce and lodgepole pine tree seedlings in Yukon, identify all funding sources and critical policy issues , develop a strategic plan and provide cost comparisons as outlined in Appendix " A" (statement of work). as proposed by the contractor in Appendix "B" and as agreed between the contractor and the Government of Yukon.		
Fees for 44 days (average price)	$597.73	$26,300. C
Expenses		$ 3,2 00.C
THIS CONTRACT TO COMMENCE October 3, 1988 * No TERMINATE December 16, 1988	TOTAL	$29,500.(

CONTRACTOR NOTE: THIS CONTRACT IS SUBJECT TO THE TERMS & CONDITIONS ON BOTH SIDES HEREOF.

I/WE, THE CONTRACTOR, AGREE TO SUPPLY THE EQUIPMENT AND/OR PERFORM THE WORK OR SERVICES AS STIPULATED HEREIN AND AGREE TO THE PROVISIONS DETAILED ON THE REVERSE SIDE HEREOF.

BUSINESS LICENCE NUMBER ☐ CITY 882465
☐ Ivzi

(signature) Oct. 7/88 Reid, Collins & Associates Limited
SIGNATURE OF CONTRACTOR DATE CONTRACTOR (FIRM NAME)

I CERTIFY THAT THE TENDERING PROCEDURES OF THE YUKON GOVERNMENT HAVE BEEN FOLLOWED.
CERTIFIED PURSUANT TO SECTION 24 (COMMITMENT) OF THE FINANCIAL ADMINISTRATION ACT.

(signature) 88/10/3 (signature)
RECOMMENDED, AUTHORIZED OFFICER / TITLE DATE APPROVED, AUTHORIZED OFFICER, TITLE

COST DISTRIBUTION

VOTE	PROGRAM	OBJECT	DEPARTMENTAL USE			ALLOTTED AMOUNT
~~0 7 1~~ 072	~~3 0 4 0 0 1~~ 404182	~~0 2 0 7~~ 03	99			$ 29,500.00
	" 1					

THE MAXIMUM AMOUNT PAYABLE HEREIN SHALL NOT EXCEED - TOTAL $29,500.00

CONTRACTOR INVOICING - .

SUBMIT ORIGINAL INVOICE AND TWO COPIES TO:
Economic Development:
Mines & Small Bus ines
Y.T.G.
Box 2703
Whitehorse Yukon
Y1A 2C6

APPENDIX II

CAPITAL COST SUMMARY

APPENDIX II

CAPITAL COST SUMMARY
(in thousand dollars)

Item	Production Level 1 MM/yr.	3 MM/yr.	5 MM/yr.
Land	$ 20	$ 20	$ 20
Site Preparation, Roads, Design	15	45	75
Well (200 gal./min.)	25	25	25
Header House (including office, lunch room, washroom, storage)	80	100	120
Polyhouses -25,000 sq.ft./MM seedling	50	150	250
Polyhouse - Irrigation	12	36	60
Field Irrigation	13	39	65
Polyhouse Benching	13	39	65
Heating (two 250,000 BTU/house)	55	165	275
Electrical (transformers, breakers, etc.)	20	40	80
Thumper Table	3	3	3
Vacuum Seeder	5	10	15
Fertilizer Injector	4	4	4
Tamper	4	4	4
Tractor	8	8	16
Trailors	4	8	12
Truck	15	15	15
Sprayer	3	3	3
Packing Conveyor	5	10	10
Block Washer, Small Tools, Misc.	5	5	5
TOTAL	$ 372	$ 768	$1,187

Reid Collins

APPENDIX III

CLIMATE AND WEATHER

	JAN JAN	FEB Ftv	MAR MAR	APR AVR	MAY MN	JUN JUIN	JUL JUIL	A m . AOÛT	SEP SEPT	OCT OCT	NOV NOV	DEC DÉC	YEAR ANNÉE	COOE COOE	
TUCHITUA															
60° 56'N 129° 15'W 724 m															
Daily Maximum Temperature	-21.3	-11.0	-22	6.1	122	18.s	202	1s.9	12.4	3.4	-24	-10.4	2.5	8	Température Maximale Quotidienne
Daily Minimum Temperature	421	-26.5	-21.4	-s.7	-1.3	4.2	S.2	4.0	-0.8	-7.3	-19.3	-26a	-11.0	8	Température Minimale Quotidienne
Daily Temperature	-2s.7	-10.7	-12.0	-1.3	6 a	11A	13.6	11.5	S.6	-20	-14.4	- a s	-42	o	Température - -
Standard Deviation, Dai Temperature	5.4	4.8	32	1.9	0.s	1.1	1.0	1.4	1.3	1.6	4.1	4.s	02	5	Écart Type de la Température Quotidienne
Extreme Maximum Temperature	2s	9.4	11.0	21.7	24.4	320	30.0	31.7	2s.7	202	8.9	3.3	32.0		Température Maximale Extrême
Years of Record	13	14	14	13	13	14	13	12	12,2	13.,4.*	13	11			Années de Relèves
Extreme Minimum Temperature	-54.4	-55.6	-45.6	-33.3	-13.9	-5.6	-22	4.1	-16.7	-28.1	-45.6	-53.9	*. S		Température Minimale Extrême
Years of Record	13	13	14	14	13	13	13	12	13	13	13	13			Années de Relèves
Rainfall	0.0	0.0	0.5	7.0	33.5 26.8	49.4	Sol	41.6	40.9	1s.5	27	0.3	243.s	0	Chutes de Pluie
Snowfall	46.4	49.1	46.5	24.5	11.1	0.1	0.0	0.0	2.2	26.5	640	66.0	337.4	8	Chutes de Neige
Total Precipitation	59.1	60.7	44.5	34A	33.3	49.4	60.1	41.6	46.b	61.6	55.6	64.6	580.8	8	Précipitations Town
Standard Deviation, Total Precipitation	22.0	17.4	125	19.7	2s.0	228	28.9	20.0	22.6	23.0	227	1s.5	62.7	s	Écart Type des Précipitations Totales
Greatest Rainfall in 24 hours	0.0	0.0	0.0	19.1	32.S	272	24,7	24.1	20.1	10.2	9.0	0.0	32.5		tidwPlubDftamd•24 heures
Years of Record	13	14	14	13	14	14	14	10	11	14	14	14			Années de Relèves
Greatest Snowfall in 24 hours	22.4	127	20.3	16.3	28.7	0.0	0.0	0.0	14.7	21.8	1s.7	16.3	28.7		Chute de Neige Record en 24 heures
Years of Record	13	13	14	13	14	14	14	13	14	14	13	13			Années de Relèves
Greatest Precipitation in 24 hours	22.4	12.7	20.3	19.1	32.s	27.2	29.7	24.1	22.9	21.8	15.7	1s.3	32.5		Précipitation Record en 24 heures
Years of Record	13	13	14	13	14	14	14	10	11	14	1 3	13			Années de Relèves
Days with Rain	0	0	0	2	8	10	13	12	12		o	0	S1	8	Jours de Pluie
Days with Snow	12	11	11	5	1	0	0	0	1	:	14	14	n	s	Jours de Neige
Days with Precipitation	12	12	12	8	9	10	14	12	13	14	14	14	144	s	Jours de Précipitation
WATSON LAKE A															
60° 7'N 128° 49'W 689 m															
Daily Maximum Temperature	-21.3	-12.0	-3.3	6.0	133	18.9	21.0	19.3	12.9	4.4	4.1	-18.5	2.s	1	Température Maximale Quotidienne
Daily Minimum Temperature	42.0	-25.3	-19.2	-7.1	0.5.	24	8.8	7.0	2.3	-4.6	-1s.5	-2s.3	-9.2	1	Température Minimale Quotidienne
Daily Temperature	-28.7	-127	-113	-0.6	6.9	127	14.9	13.1	7.6	4.1	-13.6	-23.5	-3.3	1	Température Quotidienne
Standard Deviation, Daily Temperature	5.1	4.3	2.6	20	1.1	1.4	1.2	1.5	12	21	4.8	4.s	1.0	1	Écart Type de IS Température Quotidienne
Extreme Maximum Temperature	29	9.4	11.7	20.0	30.6	33.9	33.3	32.6	27.6	21.7	12.2	7.0	33.9		Température Maximale Extrême
Years of Record	42		41	42	42	42	42	42	42	43	43	43			Années de Relèves
Extreme Minimum Temperature	46.9	4 21	-46.7	42.8	-lois"	-3.3	0.0	-6.7	-18.3	-30.6	-46.7	-52.8	46.9		Température M-ID Extrême
Years of Record	42	42	41	42		42	42	42	42	43	43	43			Années de Relèves
Rainfall	0.3	0.1	0.0	2.9	64.1	51.6	58.2	420	40.3	1s.3	2.2	0.3	238.9	1	Chutes de Pluie
Snowfall	40.4	322	28.0	13.0	5.5	T	0.0	0.0	3.4	21.0	37.3	46.6	228.8	1	Chutes de Neige
Total Precipitation	33.1	25.3	23.2	1s.1	29.4	61.6	58.2	42.8	43.7	328	31J	36.8	425.2	1	Précipitations Totales
Standard Deviation, Total Precipitation	20.3	12.6	13.7	112	20.7	24.0	31.6	23.3	19.1	1s.4	14.0	1s.9	74.4	1	&cM Type des Précipitations Totales
Greatest Rainfall in 24 hours	4.3	1.0	13.s	102	262	4s.4	41.4	S02	30.0	14.2	13.7	32	4s.4		Chute do Pluie Record en 24 heures
Years of Record	42	42	41	42	42	42	42	42	42	43	42	43			Années de Relèves
Greatest Snowfall in 24 hours	26.4	27.7	18.8	19.3	10.0	T	0.0	1.8	21.1	17.0	25.1	28.7	27.?		Chute de Neige Record en 24 heures
Years of Record	42	42	41	42	42	42	42	42	42	42	42	43			Années de Relèves
Greatest Precipitaton in 24 hours	26.4	20.6	15.5	32.s	26.2	4s.4	41.4	30.2	21.1	16.3	17.8	20.7	4s.4		Précipitation Record en 24 heures
Years of Record	42	42	41	42	42	42	42	42	42	43	42	43			Années de Relèves
Days with Rain	·	·	·	2	9	13	13	13	13	s	·	·	S9	1	Jours de Pluie
Days with Snow	16	13	12	6	2	0	0	0	1	9	1s	17	91	1	Jours de Neige
Days with Precipitation	15	12	12	7	10	13	13	13	13	14	15	18	153	1	Jours de Précipitation

YUKON TERRITORY/YUKON

	JAN JAN	FEB FÉV	MAR MAR	APR AVR	MAY MAI	JUN JN	JUL JUIL	AUG AOÛT	SEP SEPT	OCT OCT	NW NOV	DEC DÉC	YEAR ANNÉE	CODE COOE	
WHITEHORSE A															
60° 43'N 135° 4'W 703 m															
Daily Maximum Temperature	-16.4	-8.3	-2.3	5.6	127	18.4	20.3	1s.4	12.4	4.4	-s.3	-12s	4.0	1	Température Maximale Quotidienne
Daily Minimum Temperature	-25.0	-10.1	-14.0	-s.1	0.6	5.5	7.s.	8.s	2.s	-3.1	-12.3	-20.7	4.3	1	Température Minimale Quotidienne
Daily Temperature	-s0.7	-132	-0.2	0.3	6.7	12.0	14.1	12s	7.0	0.6	-8.8	-16.6	-1.2	1	Température Quotidienne
Standard Deviation, Daily Temperature	8.3	S2	3.1	2.0	1.2	1.6	1.2	1.5	1.2	20	S.o	5.8	1.1	1	Écart Type de la Température Quotidienne
Extreme Maximum Temperature	9.0	11.7	11.7	20.8	30.0	34.6	32.8	30.0	28.7	18.9	11.7	8.3	34.4		Température Maximale Extrême
Years of Record	38	38	32	3s	30	39	3s	39	39	39	32	39			Années 00 Relèves
Extreme Minimum Temperature	-52.2	-51.1	-40.6	-27.8	-11.7	-2.8	0.0	4.4	-11.7	-20a	-40.6	-47.8	-s2.2		Température Minimale Extrême
Years of Record	30	3s	38	39	30	3s	32	3s	39	3s	39	39			Années do Relèves
Rainfall	T	T	T	Od	10.1	2s.8	33.9	37.0	2s.9	&7	1.1	0.2	14s.5	1	Chutes de Pluie
Snowfall	21.3	15.2	16.4	10.5	2.s	0.9	0.0	0.8	4.0	16.1	23.6	24.2	138.6	1	Chutes de Neige
Total Precipitation	17.7	132	lao	9-0	12s	30.7	32.s	37.9	30.3	21.s	19.8	20.2	2s1.2	1	Précipitations Totales
Standard Deviation, Total Precipitation	9.2	8.8	7.5	9.0	10.0	21.0	19.4	21.7	16.7	10.8	so	8.1	4s.4	1	Écart Type des Précipitations Totales
Greatest Rainfall in 24 hours	0.5	0.4	0.0	3.8	12.4	30.2	21.1	30.7	19.6	1s3	9 4	1.8	30.7		Chute de Pluie Road en 24 heures
Years of Record	37	3s	38	32	39	30	32	3s	39	39	32	39			Années de Relèves
Greatest Snowfall in 24 hours	14.0	10.4	272	1s.3	12.2	12.7	0.0	6.6	21.6	12.2	14.0	27.0	27.2		Chute de Neige Record en 24 heures
Years of Record	30	35	3s	30	3s	39	30	39	30	39	32	3s			Années da Relèves
Greatest Precipitation in 24 hours	9.4	10.4	10.4	142	12.4	30.2	21.1	30.7	21.6	23.6	11.4	1s.7	30.7		Précipitation Record en 24 heures
Years of Record	3s	30	3s	3s	30	32	39	3s	32	39	32	32			Années de Relèves
Days with Rain	•	·	·	1	5	9	11	11	10	4	1	·	52	1	Jours de Pluie
Days with Snow	13	10	9	5	2	·	0	·	1	8	12	13	73	1	Jours de Neige
Days with Precipitation	12	10	9	6	6	m	11	11	11	10	12	13	120	1	Jours d4 Précipitation
WHITEHORSE RIVERDALE															
60° 43'N 135° 1'W 643 m															
Daily Maximum Temperature	-16.1	-7.0	-0.9	7.4	13.9	1s.s	21.4	19.5	13.4	5.$	-5.4	-127	4.9	0	Température Maximale Quotidienne
Daily Minimum Temperature	-2s.5	-18.7	-14.s	-5.s	-0.0	4.0	7.2	5.0	2.1	-3.0	-13.3	-21.s	4.9	s	Température Minimale Quotidienne
Daily Temperature	-20.9	-12.9	-7.4	1.0	0.7	121	14.5	12s	7.0	1.2	-0.4	-17.1	-1.0	o	Température Quotidienne
Standard Deviation, Daily Temperature	6.3	5.9	3.7	1.7	0.@	1.3	0.s	1.5	1.0	1.s	4.7	6.0	1.1	3	Écart Type de la Température Quotidienne
Extreme Maximum Temperature	8 2	12.0	12.s	22.8	27.8	3s.0	33.4	31.7	20.7	19.4	12.2	S.7	3s.s		Température Maximale Extrême
Years of Record	21	22	22	22	22	22	21	21	21	22	22	22			Années do Relèves
Extreme Minimum Temperature	+s.3	-41.1	-42.8	-31.7	-13.3	-4.4	-1.7	-5.6	-12.2	-28.3	41.7	47.8	-s1.1		Température Minimale Extrême
Years of Record	21	22	22	22	22	22	20	21	21	2 2	2 2	22			Années de Relèves
Rainfall	0.0	0.0	0.3	1.4	S.3	33.2	33.0	30.3	20.7	7.3	1.s	0.2	1439	s	Chutes de Pluie
Snowfall	las	10.0	13.7	7.9	0.9	0.7	0.0	0.0	2.8	9 2	16.4	103	10110	8	Chutes de Neige
Total Precipitation	21.6	121	15.4	122	11.1	33.9	32.s	35.2	25.1	17.s	23.8	20 4	1.17	8	Précipitations Totales
Standard Deviation, Total Precipitation	9.2	&3	9.7	0.0	13.0	13.s	18.5	31.0	22.3	8.2	17.4	..	.5 2	6	Écart Type dea Précipitations Totales
Greatest Rainfall in 24 hours		T	0.9	1.8	10.9	43.2	226	23.9	25.4	12.8	10.0	1.0	43.2		Chute de Pluie Record en 24 heures
Years of Record	9	8	a	7	7	8	6	7	8	8	s	10			Années do Relèves
Greatest Snowfall in 24 hours	6 4	109	100	185	30	00	nn	T	19 n	8 6	19 5	18 4	19 n		Chute de Neine Record en 24 heures

METEOROLOGICAL SUMMARY
SOMMAIRE METEOROLOGIQUE

WATSON LAKE YUKON

PERIOD JAN 19S3- DEC 1978

DATE	JAN JAN	FEB FEV	MAR MAR	APR AVR	HAY HAI	JUN JUIN	JUL JUIL	AUG AOUT	SEPT SEP	OCT OCT	NOV NW	DEC DEC	ANNUAL ANNUEL
					PERCENT FREQUENCY								
NNE	.6	.S	.S	.7	1.0	1.s	i.B	1.9	1.8	1.6	1.1	.s	1.1
NE	1.0	1.s	i.7	2.1	2.5	3.3	3.9	4,6	4.4	3.B	i.B	1.4	2.7
ENE	i.S	i.7	2.2	2.8	3.2	3.0	2.9	2.9	4.8	,3.3	1.6	1.3	2.6
E	4.1	S.2	10.4	12.3	11.1	8.1	S.9	6.S	9.1	7,8	4.6	4.2	7.4
ESE	3.3	S.6	10.1	11.3	9.0	7.8	S.6	6.3	9.2	10.2	5.1	3.9	7.3
SE	4.4	7.3	9.0	9.9	7.4	7.9	6.4'	7.i	9.4	9.9	6.2	S.4	7.6
SSE	2.0	3.6	3.7	2.0	3.1	3.4	2.7	3.8	5.0	5.0	3.1	2.4	3.4
s	1.7	3.0	2.9	3.7	4.0	4.4	4.3	4.8	S.1	6.2	3.8	2.0	3.8
SW	.5	i.2	1.0	2.3	2.8	2.7	2.4	2.6	2.2	2.s	1.0	.6	1.8
SW	i.1	1.6	1.5	3.8	4.s	4.8	S.1	4.1	2.9	2.9	1.6	.8	2.9
WSW	1.6	2.7	3.3	S.8	7.2	7.8	8.4	6.6	4.6	4.1	1.7	1.4	4.6
u	10.8	10.4	9.4	10.1	12.3	14.6	1S.s	12.s	B.b	7.3	10.3	10.0	11.0
UNU	11.9	8.7	7.S	6.S	7.3	8.6	8.,9	B.8	6.3	6.4	11.0	11.6	8.6
NW	5.7	4.2	.4.2	3.0	4.6	6.4	8. 0	7.5	6.6	8.6	9.6	6.S	6.3
NNU	.9	.8	.8	1.1	1.S	2.0	2.,s	2.5	2.2	2.6	2.2	1.0	1.7
N	.7	.7	.7	1.3	i.b	2.3	3.1	2.7	2.3	2.4	2.1	.8	1.7
CALH	48.2	41.4	30.3	19.7	16.9	11.3	12.s	1s.0	1s.4	1s.s	33.3	'46.1	2S.4

AVERAGE WIND SPEED IN KILOHETRESPER HOUR

NNE	4.8	5.6	4.B	7.2	8.S	8.6	7.7	6.2	6.2	6.0	4.0	4.s	6,6
NE	4.8	5.5	6.2	8.6	8.7	9.6	7.2	6.7	7.4	6.8	5.4	4.6	7.1
ENE	6.3	7.s	10.5	11.6	12.7	13.2	9.S	8.S	10.6	10.8	7.9	5.4	10.1
E	9.4	10.3	14.3	13.9	14.7	14.S	11.S	11.3	12.9	15.5	11.2	9.7	13.0
ESE	13.6	13.S	1S.8	15.6	14.7	14.3	12.4	12.7	14.3	18.0	16.0	13.6	14.9
SE	11.0	12.0	12.3	11.8	10.6	10.8	9.9	10.0	10.8	12.8	11.7	10.9	11.3
SSE	8.B	10.s	11.1	10.5	9.4	9.6	9.0	9.1	9.s	10.3	10.2	9.9	9.9
s	S.9	8.4	8.8	12.0	10.s	9.8	9.1	9.0	9.3	9.s	7.8	7.0	9.2
Ssu	6.S	10.4	10.7	13.S	13.0	12.3	10.9	10.8	10.7	10.8	8.4	10.2	11.3
SW	7.4	12.1	13.0	1S.6	13.8	13.S	12.6	12.0	13.2	13.3	8.S	8.0	12.8
WSW	9.3	13.4	16.5	19.3	18.2	16.9	17.0	16.2	16.5	18.8	12.1	9.1	16.6
u	5.9	7.4	iO.B	14.4	1S.0	1S.0	14.S	13.6	14.0	12.0	6.8	S.9	11.6
UNU	6.6	8.6	11.3	13.9	14.S	14.S	14.0	13.7	12.7	10.S	7.1	6.7	10.7
NU	6.8	8.S	11.2	12.9	12.6	11.S	11.1	10.B	9.7	9.0	6.7	6.1	9.s
NNU	6.2	7.9	11.2	14.S	10.9	9.9	9.S	B.S	7.8	7.0	6.8	4.4	8.S
N	S.2	S.8	6.9	10. S	9.3	8.8	8.0	6.7	6.S	S.6	4.8	4.7	7.i
ALL	3.9	S.7	8.6	11.1	11.3	11.6	10.5	9.6	9.8	10.2	S.7	4.2	B.S

METEOROLOGICAL SUMMARY
SOMMAIRE METEOROLOGIQUE

WATSON LAKE YUKON

PERIOD JAN 1953- DEC 1978

DATE	JAN JAN	FEE FEV	HAR HAR	APR AVR	MAY HAI	JUN JUIN	JUL JUIL	AUG AOUT	SEPT SEP	OCT OCT	NOV NOV	DEC DEC
	MAXIMUM OBSERVED HOURLYS PEED IN KILOHETRES PER HOUR											
NNE	ib	16	lb	24	27	42	48	29	26	i9	23	11
NE	24	3s	27	4S	3S	61	42	39	39	39	37	13
ENE	32	45	39	48	4S	S6	32'	40	42	4S	27	27
E	40	40	61	S1	S6	64	39	4S	S6	SS	4s	49
ESE	40	39	5s	S6	S6	4B	44	42	S6	S1	4s	4E
SE	40	4s	42	4S	48	48	40	3s	39	4s	4s	45
SSE	40	39	39	3S	32	39	29	3S	32	3S	32	31
s	32	42	3s	S1	40	40	32	32	32	S2	29	2t
SSW	29	39	3s	S1	42	S6	3S	4S	3S	42	39	40
Su	31	43	48	51	42	40	40	39	40	4a	40	39
WSW	48	S6	Ss	56	S6	4a	4s	42	Si	80	S6	5t
u	45	48	51	64	58	61	46	48	64	SS	S6	32
UNu	40	64	61	55	80	58	42	4S	4B	SS	4a	42
NW	3s	43	60	51	51	4s	40	4a	4a	4B	61	35
NNM	32	3s	39	4a	40	4a	40	3s	40	3s	4s	3S
N	29	24	27	3S	3S	3S	32	32	4S	29	lb	13
EXT	4a	64	61	64	80	64	48	48	64	80	61	5t
	PROBABLE MAXIMUM GUST FOR MAXIMUM HOURLY SPEED											
NNE	30	30	30	40	44	64	71	47	43	34	39	24
NE	40	S4	44	67	S4	80	64	60	60	60	57	2t
ENE	Si	67	60	71	67	82	S1	61	64	67	44	44
E	61	71	aa	7s	82	92	60	67	82	BO	67	67
ESE	61	60	ao	a2	82	71	66	64	82	7s	b7	71
SE	61	67	64	67	71	71	61	S4	60	67	67	67
SSE	61	60	60	S4	S1	60	47	S4	51	S4	S1	49
s	51	64	S4	7s	61	61	51	51	Si	76	47	43
SW	47	60	S4	7s	64	82	S4	67	S4	64	60	61
SW	49	6s	71	7s	64	61	61	60	61	71	61	60
Usu	71	a2	80	82	82	71	67	64	7S	i13	82	82
u	67	71	7S	92	84	80	69	71	92	BO	a2	51
UNU	61	92	88	ao	113	B4	64	67	71	BO	71	64
NU	S4	6S	B7	7S	7S	67	61	71	7i	71	Ba	bC
NNU	S1	S4	60	71	61	71	61	S4	61	S4	67	61
N	47	40	44	S4	S4	S4	S1	51	67	47	30	2t
EXT	71	92	88	92	113	92	71	71	92	113	BB	a:

METEOROLOGICAL SUMMARY
SOMMAIRE METEOROLOGIQUE

UHITEHORSE YUKON

PERIOD JAN 1953- DEC 1978

DATE	JAN JAN	FEB FEV	HAR HAR	APR AVR	HAY HAI	SUN JUIN	JUL JUIL	AUG AOUT	SEPT SEP	OCT OCT	NOV NW	DEC DEC	ANNUAL ANNUEL
						PERCENT FREQUENCY							
NNE	.3	.2	.6	.0	i.i	i.7	1.8	1.1	.6	.3	.2	.2	.e
NE	.2	.3	.3	.7	1.1	1.6	1.3	.7	.7	.3	.2	.2	.6
ENE	.1	.1	.1	.2	.4	.4	.4	.3	.2	.1	*	.1	.2
E	.s	.7	.5	.9	1.5	2.0	1.6	.9	.7	.S	.4	.6	.9
ESE	.7	1.0	1.6	2.5	3.9	4.2	4.8	2.8	2.0	i.S	.7	.8	2.1
SE	9.9	13.s	14.9	20.2	24.4	23.S	23.6/	23.6	22.2	21,1	i3.o	i2.9	18.6
SSE	1S.6	19.0	17.8	10.1	19.9	17.9	18.3	18.6	22.0	2S.8	19.s	16.3	19.1
S	i3.3	17.4	14.7	is.7	12.3	10.7	11.5	12.3	1S.3	17.S	20.7	19.1	1s.0
SSW	.8	1.9	2.3	3.8	4.2	3.4	2.9	2.S	2.3	1.9'	i.3	1.1	2.4
SU	06	i.i	2.4	S.2	4.7	4.5	4.0	3.9	2.0	i.7	i.2	.7	2.7
USU	.	.3 .S	1.6	2.1	2.3	2.3	1.0	i.8	i.S	.0	.7	.3	1.3
u	1.4	1.7	3.2	3.3	2.7	3.1	3.0	3.2	2.8	2.3	2.s	1.4	2.s
WNW	2.6	2.3	2.3	1.7	1.6	1.4	i.S	1.6	1.4	i.4	2.7	2.2	1.9
NU	1S.0	12.1	li.4	6.0	4.3	4.7	4.7	S.2	S.7	6.4	i i i	12.5	8.2
NNu	11.6	9.4	6.7	4.4	3.1	3.3	3.6	4.i	3.8	4.6	9.0	9.9	6.1
N	.9.3	6.S	7.3	6.0	4.2	S.7	6.2	6.3	S.3	4.4	S.4	6.8	6.1
CALM	17.8	i2.3	12.3	8.4	0.4	9.s	9.8	11.2	10.7	9.4	11.7	1s.1	11.4
						AVERAGE WIND SPEED IN KILOMETRES PER HOUR							
NNE	10.5	7.2	12.3	12.6	11.0	9.7	10.3	8.8	8.8	9.S	7.0	6.7	10.1
NE	4.S	S.0	6.3	8.9	8.0	7.9	7.2	6.1	6.3	7.6	S.o	4.3	7.i
ENE	6.9	S.S	9.7	8.3	8.3	8.6	6.6	S.9	4.4	6.7	6.3	6.7	7.2
E	4.9	7.3	10.6	9.2	8.9	9.3	8.7	7.3	6.7	8.S	6.0	4.9	8.1
ESE	10.7	16.2	18.0	ib.9	17.0	16.3	16.S	17.1	16.9	19.8	14.9	10.3	16.s
SE	17.1	19.9	19.0	18.6	17.8	16.8	16.7	17.5	18.7	22.0	20.8	21.0	18.7
SSE	23.1	22.8	20.2	18.3	18.2	16.8	iS.b	16.9	19.1	21.1	22.4	23.1	19.7"
s	20.7	21.9	16.8	iS.2	14.5	12.2	11.7	12.7	14.9	17.3	20.s	21.s	17.2
Ssu	16.4	18.5	16.1	15.4	16.2	14.8	13.6	13.2	13.4	i4.b	14.s	is.4	1s.1
SW	10.3	11.2	ii.9	12.7	14.8	13.4	12.0	11.4	10.2	9.9	9.s	8.0	12.1
WSW	8.6	10.1	10.9	12.6	14.2	i2.3	10.1	9.2	9.6	9.1	7.9	S.B	11.0
u	7.0	7.3	8.7	8.9	10.0	9.8	8.6	7.9	7.4	7.0	7.2	6.4	0.2
UNU	10.6	10.3	9.9	10.6	11.5	10.8	10.4	- 9.6	9.0	8.8	9.2	9.7	io.o
NU	11.6	11.6	13.6	13.7	12.4	10.B	iO.b	10.3	10.3	li.7	11.9	11.5	11.8
NNW	12.9	13.8	14.9	14.S	13.4	12.0	12.3	11.0	13.3	14. i	14.1	13.s	13.s
N	11.2	ii. o	13.s	13.8	12.3	10.6	11.1	10.8	10.9	13.4	12.5	12.0	11.9
ALL	13.1	1s.4	14.3	14.4	14.4	12.7	i2.3	i2.b	i3.9	16.3	1s.s	i4.0	14.1

METEOROLOGICAL SUMMARY
SOMMAIRE METEOROLOGIQUE

UHITEHORSE YUKON

PERIOD JAN 19S3- **DEC** 1978

DATE	JAN	FEB	MAR	APR	HAY	JUN	JUL	AUG	SEPT	OCT	NOV	DE
	JAN	FEV	HAR	AUR	HAI	JUIN	JUIL	AOUT	SEP	OCT'	NW	DE
					MAXIMUM OBSERVED HOURLY SPEED IN KILOHETRESPER HOUR							
NNE	39	19	39	32	34	3s	3s	3s	32	29	29	2
NE	13	lb	i9	3s	29	43	32	**18**	**21**	24	14	1
ENE	19	13	24	27	**19**	27	23	23	10	19	**10**	2
E	**23**	39	32	32	3s	32	29	34	37	31	23	2
ESE	39	**48**	4s	**48**	42	48	***63***	40	***S6***	4s	48	3
SE	72	**56**	***64***	**51**	61	***S6***	48	4s	S8	***63***	***68***	6
SSE	71	***68***	***61***	Ss	***64***	48	40	48	48	***60***	***64***	7
s	***64***	**55**	***64***	4s	48	40	48	40	72	so	***S6***	5
Ssu	**48**	42	S1	48	37	42	39	43	4s	48	**61**	3
SW	42	Ss	**50**	40	4s	4s	**40**	48	42	40	**58**	3
Usu	**40**	39	4s	S1	S1	3s	**31**	32	32	**29**	32	1
u	4s	32	3s	29	32	39	**40**	37	32	**33**	24	2
UNU	48	**55**	40	43	37	43	**39**	29	29	32	32	2
NU	**55**	Si	48	S3	4s	3s	**34**	32	3s	S1	48	4
NNM	40	42	s&	4s	43	4s	**32**	37	39	42	**55**	4
N	4s	39	***S6***	***60***	40	48	**48**	32	***S6***	42	***60***	4
EXT	72	***b8***	***64***	**60**	***64***	***S6***	***63***	48	72	***63***	***60***	7
					PROBABLE MAXIMUM GUST FOR MAXIMUM HOURLY SPEED							
NNE	***60***	34	***60***	**Si**	S3	S4	S4	S4	S1	47	47	3
NE	26	30	34	S4	47	***6S***	**51**	33	***36***	40	27	2
ENE	34	***26***	**40**	**44**	**34**	44	39	39	22	34	22	4
E	39	***60***	**51**	**51**	**54**	S1	47	**53**	**57**	49	39	3
ESE	60	**71**	***67***	**71**	***64***	**71**	9i	***61***	B2	***67***	71	5
SE	102	**82**	92	7s	88	82	71	***67***	84	**91**	97	9
SSE	101	**97**	88	88	92	71	61	71	**71**	B7	92	10
s	92	**80**	92	***67***	**71**	***61***	7i	61	**102**	84	82	8
Ssu	**71**	***64***	7s	71	S7	***64***	***60***	***6S***	***67***	71	88	6
Su	***64***	80	74	61	***67***	***67***	**61**	71	***64***	**61**	84	6
WSW	61	**60**	***67***	7s	***7s***	S4	49	Si	Si	47	S1	3
u	***67***	**51**	S4	47	**51**	***60***	***61***	S7	**51**	S2	40	3
UNM	71	**80**	**61**	***6S***	S7	***6S***	***60***	47	47	S1	S1	4
NW	80	7s	**71**	78	***67***	S4	S3	**51**	S4	7s	**71**	6
NNu	71	**64**	**82**	***67***	***6S***	***67***	**51**	S7	***60***	**64**	80	7
N	***67***	**60**	**82**	87	bi	71	**71**	***S1***	82	**64**	87	7
EXT	102	97	92	87	92	82	91	**71**	102	91	97	10

TOTAL BRIGHT SUNSHINE (HOURS) 1951.80
INSOLATION EFFECTIVE TOTALE (HEURES) 1951.80

	JAN JAN	FEB FEV	MAR MARS	APR AVR	MAY MAI	JUN JUIN	JUL JUIL	AUG AOUT	SEP SEP1	OCT OCT	NOV NOV	DEC DEC	YEAR ANNEE	CODE CODE
YUKON TERRITORY **YUKON**														
FORT SELKIRK	7.5	91.2	168.2	229.7	281.6	260.0	268.0	246.8	142.9	79.7	16,4	7.7	1619.9	5
HAINES JUNCTION	19,3	7&O	161.4	220.7	282.8	275.7	275.4	235.9	139.6	91.5	24.4	1,7	1806.6	1
WATSON LAKE A	4s.1 -	8S.3	134.8	216.6	255.2	265.0	262.6	226.0	126.5	95.6	42.9	31.3	1766.9	5
WHITEHORSE A	46.0	91.0	153.1	22S.6	259.2	272.8	250.2	230.7	136.5	93.4	56.3	23.0	1843.8	3
NORTHWEST TERRITORIES **. TERRITOIRES DU NORD-OUEST**														
ALERT	*0.0*	*0.0*	64.5	36s.5	410.1	*303.s*	2s9.0	207.2	62.8	a.5	0.0	0.0	1767.4	5
BAKER LAKE	35.6	107.1	189.6	234.5	264.3	262.4	301.1	210.6	107.4	72.3	51.0	7.1	1843.2	6
CAMBRIDGE BAY A	1.1	51.7	184.4	251.5	250.2	267.8	304.s	175.9	62.6	56.2	9.5	0.0	1599.0	5
CLYDE	0.4	40.1	161.4	248.2	251.0	260.7	259.S	191.9	65.0	47.7	42	00	1550.4	5
COPPERMINE A	4.0	78.8	1621	215.7	225.0	3m.7	318.1	Im.6	70.3	48.1	12.2	0.0	1629.4	1
CORAL HARBOUR A	44.0	113.7	MS.?	27s.2	281.5	262.2	266.0	224.9	107.7	66.S	5S.7	26.5	19s7.7	1
EUREKA	0.0	0.0	118.0	355. I	520.7	406.0	341.2	240.1	101.6	&6	0.0	0.0	2090.s	5
FORT *SIMPSON A*	47.s	66.1	1s0.3	222.0	274.0	260.6'	26s.2	24S.1	133.7	65.3	51.4	2s.3	1915.s	2
FORT SMiTH A/UA	57.1	113.7	176.7	243.0	285.9	22s.1	301.0	261.7	132.0	a7.3	43.5	2a.3	202s.3	2
FROBISHER BAY A	352	96.3	177.4	2352	199.9	1752	202.1	1612	62.4	57.6	45.6	19.6	1466.0	2
INUVIK A/UA	*7.3*	as.2	174.1	24S.7	2s5.0	375.1	339.s	216.2	102.4	50.2	17.s	0.0	1898.8	3
ISAC14SEN	0.0	0.3	94.S	324.3	*336a*	266.6	232.0	143.4	50.0	7.1	0.0	0.0	1456.9	5
MOULD BAY A	0.0	4.6	109.s	2s62	333.3	245.9	276.1	131.0	45.s	70.7	0.0	0.0	1442.7	5
NORMAN WELLS A	2s.6	76.4	166.9	23s.7	2s2.8	311.1	26S.7	236.7	119.0	56.9	322	13.2	1854.0	3
RESOLUTE A	0.0	1?.7	145.9	27S.4	2s2.3	255.s	274.4	15s.4	59.1	23.7	0.4	0.0	1506.1	1
SACHS HARBOUR A	0.1	42.6	*16s.s*	264.8	*264.8*	330.s	336.7	189.8	7S.7	3S.7	4.3	0.0	*1736.7*	3
YEUOWKNiFE A	44.0	1022	*196.3*	*266.4*	*333.6*	394.6	352.1	2s7.6	152.0	5s2	41.7	20.8	*227a.6*	5
ALBERTA **ALBERTA**														
BANFF	65.5	98.0	133.8	154.4	196.2	*204.0*	265.8,	211.1	1s3.3	131.s	61.4	3S.3	1724.0	5
BEAVERLODGE CDA	*74.4*	106.7	1602	20s.0	271.0	277.0	300.7	263.1	1ss.s	141.0	89.3	62.3	2125.5	1
BROOKS AHRC	*6s.4*	116.6	16s.2	205.s	269.9	287.1	341.7	304.1	201.2	173.1	111.2	76.5	2333.6	2
CALGARY INT'L A	102.0	127.2	162.2	204.9	253.s	267.0	322.2	262.3	194.7	176.0	123.9	97.7	2314.4	1
COLD iAKE A	So2	1262	171.s	228.2	2721	26s.7	312.S	256.3	175.4	1542	24.3	7a.4	2239a	*a*
CORONATION A	11s.0	133.2	163.4	2312	290.8	310.4	337.2	266.S	207.8	178.5	12s.s	63.6	2490.3	6
EOMONTON INT'L A	*97.7*	116.6	172.1	232.s	263.5	2M.7	313.1	2a4.3	1s3.3	1s2.9	102.s	77.5	2314.9	3
EDMONTON MUNiCiPAL A	90.0	had	167.5	22a.3	277a	271.7	306.4	27a.s	1s22	161.a	107.2	77.9	2263.7	1
EDSON/A	*63.0*	116.3	163.9	204.3	244.6	254.3	261.2	245.6	162.6	160.s	93.3	65.6	2055.7	4
ELLERSUE	91.0	121.6	166.1	237.s	286.9	2662	317.9	260.4	175.4	159.4	07.7	71.4	2260.4	4
FAiRVIEW	Ss.s	10s2	160.s	225.5	*2 m 4*	263.7	2s0.1	25s.1	165.5	135.5	81.7	54.0	2059.9	2
FORT MCMURRAY A	88.2	12s.3	1s5.1	231.6	*27S.4*	272.6	265.4	247.7	1432	124.5	632	81.7	210S.9	a
FORT VERMILION COA	89.s	10s.s	174.6	235.0	2s2.1	26s.9	301.4	261.5	156.4	124.2	63.4	36.7	2106.9	1
HIGH LEVEL A	54.0	1255	175.0	24S.4	2s3.0	304.6	2s4.0	256.0	14s.4	142.0	702	37.0	2136.1	a
KAHANASKiS	63.0	1132	162.8	186.7	211.7	23s.8	264.2	23s.6	171.0	16s2	65.5	49.0	1969.8	6
KEG RiVER	81.s	95.9	13s.s	196.9	23s.9	241.0	257.2	226.6	13s.6	112.2	61.1	35.2	1806.6	2
LACOMBE CDA	*87.5*	116.0	1622	196.3	249.S	251.0	2s1.7	254.5	176.3	164.9	102.3	79.7	2125.0	1
LETHBRIDGE CDA	95.3	1222	16s.8	197.9	263.3	263.0	345.1	2ss2	213.5	175.1	116.S	90.2	2370.0	1
MANYSERRIES CDA	*sad*	114.3	1622	194.4	259.1	2s1.3	33s.9	226.9	217.0	170.5	114.9	89.7	2308.5	1
MEDICINE HAT A	93.0	1222	1632	200.9	270.S	27S.9	347.6	2SS.3	1ss.1	173.3	1122	66.7	23442	1
OLDS	86.2	118.4	16s.0	191.s	236.1	239.2	287.7	259.6	164.7	160.s	106.8	60.3	2079.4	2
RANFURLY	87.7	117A	16S.6	2222	266.9	259.3	293.0	2592	175.0	152.S	92.9	72,6	2168.4	?
SiAVE iAKE A	83.8	113.5	187.s	2332	2s1.1	274.S	2S2.6	245.3	1s22	14s.s	9s.0	57.7	2159.7	8
SUFPIELO A	98.1	128.0	17s.s	20s.7	277.7	26s.1	350.9	305.5	207.S	16s.3	121.6	66.1	24%.7	1
VAUXHAU CDA	99.2	1224	1632	1S72	257.0	262.0	343.7	2s4.9	203S	170.0	119.0	91.9	2344.3	3

STATION	LAT.	LONG.	HEIGHT METRES ABOVE M.S.L.	AVERAGES BASED ON 1961 PERIOD OF RECORD				EXTREMES BASED ON FULL PERIOD OF RECORD							
				YEARS	FROST-FREE PERIOD (DAYS)	LAST FROST (SPRING)	FIRST FROST (FALL)	YEARS	LAST FROST (SPRING) EARLIEST	LAST FROST (SPRING) LATEST	FIRST FROST (FALL) EARLIEST	FIRST FROST (FALL) LATEST	LONGEST LAST FROST (SPRING)	LONGEST FIRST FROST (FALL)	
	40s	deg. '													
YUKON TERRITORY (Cont'd)															
Haines Junction	60 46	137 35	599	30	21	July 6	July	34	June 16	July 15	July 16	Aug 19	June 16	Aug 19	
Johnsons Crossing	4029	133 18	690	17	45	June 23	Aug	11	June 6	July 6	July 16	Aug 31	June 21	Aug 31	
Kane Mill	*J 54	133 12	672	6	53	June 22	Aug	4	June 11	July 4	July 24	Aug 21	June 15	Aug 31	
Kluane Lake	61 01	138 24	786	8	59	June 19	Aug	1	June 9	July 3	July 22	Aug 31	June 9	Aug 31	
Kenekuk Beach	69 n	lbo 11	14	22	28	July 2	July	22	June 20	July 15	July 18	Sept 1	July 1	Sept 1	
Mayo A	63 37	135 52	504	29	71	June 8	Aug	57	May 14	July 13	July 20	Sept 11	May 25	Sept 9	
Ogilvie River	63 22	138 18	579	6	45	June 17	Aug	1	May 28	July 2	July 17	Aug 22	June 19	Aug 22	
Old Crow A	67 35	139 50	253	9	63	June 14	Aug	9	May 22	July 1	July 31	Sept 1	June 10	Sept 1	
Quiet Lake	61 09	133 04	812	11	62	June 15	Aug	11	May 30	July 15	July 14	Sept 8	June 8	Sept 8	
Rose River	61 58	132 27	598	13	25	July 1	July	13	June 9	July 14	July 16	Aug 21	July 3	Aug 21	
Shaldee Lake	62 37	131 17	884	8	14	July 8	July	8	June 23	July 15	July 17	Aug 18	July 3	Aug 18	
Shingle Point A	68 57	137 13	55	23	61	June 26	Aug	21	June 8	July 12	July 18	Sept 3	June 8	Sept 3	
Snag A	61 22	140 24	587	16	51	June 19	Aug	22	May 29	July 13	July 18	Aug 22	May 29	Aug 20	
Stokes Point	69 20	138 46	30	5	31	July 3	Aug	1	June 21	July 15	July 23	Aug 24	July 3	Aug 24	
Swift River	60 00	131 11	991	13	19	July 4	July	13	June 22	July 15	July 16	Aug 29	June 30	Aug 29	
Teslin A	60 10	132 43	705	29	58	June 19	Aug	33	May 28	July 14	July 16	Sept 12	May 30	Sept 3	
Tuchitua	60 56	129 15	724	9	54	June 22	Aug	9	June 5	July 2	Aug 10	Aug 29	June 5	Aug 25	
Watson Lake A	60 07	128 49	689	29	53	June 2	Sept	39	May 11	June 25	Aug 10	Sept 27	May 11	Sept 13	
Whitehorse A	60 43	135 04	703	29	51	June 8	Aug 30	48	May 13	July 4	July 30	Sept 20	May 13	Sept 12	
Whitehorse Rivervale	60 43	135 01	643	14	51	June 17	Aug	14	June 5	July 5	July 19	Sept 10	June 8	Sept 10	
NORTHWEST TERRITORIES															
Alkovik	68 13	135 00	11	11	74	June 13	Aug	31	May 26	July 11	July 22	Sept 28	June 16	Sept 26	
Alert	82 30	62 20	62	30	4	July 14	July	31	July 7	July 15	July 14	Aug 3	July 15	Aug 3	
Arctic Bay	73 02	85 09	11	18	13	July 9	July	31	June 13	July 15	July 16	Aug 20	June 26	Aug 20	
Atkinson Point	69 56	131 24	9	5	34	July 6	Aug	1	June 29	July 14	July 20	Aug 31	June 29	Aug 31	
Baker Lake	64 18	96 00	12	30	53	June 23	Aug	34	June 7	July 15	July 27	Sept 18	June 17	Sept 18	
Bathurst Inlet	66 50	108 01	13	5	71	June 19	Aug	1	June 9	June 26	Aug 3	Sept 12	June 11	Sept 12	
Bathurst Island	75 43	98 25	3	9	53	July 4	July	1	June 22	July 15	July 16	July 30	June 23	July 28	
Brevoort Island	63 21	64 10	171	15	5	July 11	July	14	July 4	July 15	July 16	July 23	July 4	July 17	
Broughton Island	67 33	63 47	598	22	6	July 13	July	21	July 3	July 15	July 26	Aug 10	July 13	Aug 10	
Byron Bay	68 43	109 04	113	23	56	June 29	Aug	23	June 12	July 15	July 21	Sept 11	June 18	Sept 11	
Cambridge Bay A	69 06	105 07	27	30	51	June 28	Aug	44	June 4	July 15	July 20	Sept 18	June 4	Aug 2	
Cape Dorset A	64 13	76 32	46	5	51	June 29	Aug	1	June 22	July 12	July 17	Sept 12	June 22	Sept 1	
Cape Dyer A	66 35	61 37	393	21	13	July 10	July	21	June 26	July 15	July 16	Aug 23	June 27	Aug 1	
Cape Hooper	68 26	66 47	401	21	1	July 14	July	21	July 10	July 15	July 16	Aug 12	July 10	July 1	
Cape Parry A	70 10	124 41	17	24	31	July 8	Aug	24	June 22	July 15	July 14	Sept 12	June 22	Sept	
Cape Young	68 56	116 55	10	24	34	July 6	Aug	21	June 10	July 15	July 16	Sept 12	&88 10	Sept 1	
Chesterfield	63 20	90 43	6	30	61	June 27	Sept	51	June 13	July 14	July 16	Sept 20	June 13	Sept 1	
Clinton Point	69 33	120 48	101	b	31	July 4	Aug	24	June 13	July 15	July 16	Sept 11	June 13	5902	
Clyde	70 28	68 37	15	in	51	July 13	July	34	July 4	July 15	July 16	Aug Ia	July Ia	Aug 1	
Contwoyto Lake	65 29	110 22	451	u	61	July 2	Aug	21	June 13	July 15	July 17	Sept 12	June 13	Sept	
Copperamine	61 50	115 01	9	30	51	June 24	Aug	41	June 8	July 13	July 23	Sept 14	June 10	Sept 1	
Coral Harbour A	04 12	83 a:	64	30	54	June 27	Aug	31	June 8	July 15	July 16	Sept 13	June 8	Aug 2	
Dauer Lakes	6039	71 14	118	21	19	July 11	July	21	June 28	July 15	July 16	Sept 5	July 4	Sept	
Ekaluqad Fiord	0543	68 M	724	5	1	July 14	July	1	July 10	July 15	July 14	Aug 5	July 10	Aug	
Ennadai Lake	61 08	100 54	123	29	74	June 18	Sept	36	May 30	July 15	Aug 9	Sept 19	June 11	Sept 1	
Eureka	0000	85 50	10	30	6	June 27	Aug	34	June 7	July 13	July 16	Aug 28	June 10	Aug 1	
Fort Good Hope	00 M	128 38	53	23	9	June 2	Aug	30	May 21	July 13	July 25	Sept 13	May 27	Sept	
Fort Good Hope 2	66 15	11020	42	11	6	June 14	Aug	52	May 23	July 14	July 18	Sept 1	May 25	Sept	
Fort Liard	00 lb	123 28	13	7	5	Apr 25	Sept	7	May 15	May 30	Aug 24	Sept 1	May 15	Sept 3	
Fort McPherson	67 26	124 53	30	2a	8	June 8	Aug	66	May 23	July 14	July 18	Sept 20	May 29	Sept 1	
Fort Norman	04 53	11s 34	74	9	4	June 12	Aug	48	May 23	July 14	July 19	Sept 16	June 9	Sept 1	
Fort Providence	Mao	It? 40	39	19	6	June 18	Aug	26	May 22	July 13	July 24	Sept 29	June 4	Sept 2	
Fort Reliance	62 43	10010	68	30	5	June 12	Sept	32	May 19	July 11	Sept 1	Oct 3	May 24	Sept 2	
Fort Resolution	61 11	113 41	64	27	9	June 6	Sept	56	May 19	July 13	July 23	Sept 28	May 24	Sept 2	
Fort Simpson	61 52	11118	32	13	8	June 1	Aug	66	May 10	July 14	July 22	Sept 26	May 28	Sept 2	
Fort Simpson A	61 45	121 14	69	17	9	June 3	Aug	17	May 12	June 24	July 17	Sept 19	May 15	Sept	
Fort Simpson CDA	61 52	121 xl	31	9	2	June 4	Aug	9	May 15	July 8	Aug 12	Sept 6	May 15	Sept	
Fort Smith A	001	111 37	03	30	2	June 8	Aug	37	May 15	July 15	July 17	Sept 15	May 23	Sept	
Frobisher Bay	S4S	68 33	34	29	9	June 28	Aug	34	June 13	July 15	July 19	Sept 17	June 19	Sept	
Gladman Point	040	97 48	25	20	8	July 3	Aug	20	June 18	July 15	July 16	Sept 3	June 16	Sept	
Hall Beach A	4a 41	81 15	8	23	9	July 3	Aug	23	June 15	July 15	July 17	Sept 6	June 15	Aug	
Hat Island	40 11	100 05	36	5	5	July 10	July	5	July 3	July 13	July 18	Aug 5	July 11	Aug	
Hay River A	40s4	115 47	66	30	0	June 2	Sept	85	May 11	July 1	July 31	Oct 4	May 30	Oct	
Hay R/Paradise CDHS	Ooal	116 00	13	12	9	June 5	Aug	12	May 15	July 8	Aug 15	Sept 12	May 27	Sept	
Holman	70 44	117 47	9	16	2	July 6	July	25	June 16	July 15	July 16	Sept 7	July 2	Sept	
Inuvik A	0084	133 29	68	23	1	June 23	Aug	23	May 28	July 15	July 26	Sept 12	June 8	Sept	
Isachsen	11 4]	103 32	23	27	4	July 13	July	30	June 30	July 15	July 16	July 26	June 30	July	
Jenny Lind Island	40 31	101 44	37	23	4	July 6	July	23	June 23	July 15	July 16	Aug 25	June 25	Aug	
Lady Franklin Pt. A	45X	113 13	21	23	8	July 5	Aug	22	June 12	July 15	July 16	Sept 12	June 28	Sept	
Longstaff Bluff	04 3]	75 18	62	22	8	July 5	Aug	22	June 22	July 15	July 16	Sept 9	June 22	Sept	

PROBABILITY OF. FROST FREE PERIOD

Tableau

Station	Shortest frost free period	Probability of frost-free period ● fual 10 or less than indicated period (days)							Longest frost free period
		10% (1 in 10)	25% (1 in 4)	33% 11 in 3)	50% (1 in 2)	66% (2 in 3)	75% (3 in 4i	90% (9 in 10 l	
YUKON TERRITORY (cent'~)									
Ross River	5	5	8	14	19	21	41	48	48
Shingle Point A	?	27	37	39	49	58	62	75	86
Snag A	20	29	Ib	41	50	57	63	77	82
Swift River	o	0	6	8	19	25	26	51	59
Teslin A	16	31	&8	52	61	68	Ib	85	95
Tuchitua	44	44	52	54	56	61	64	80	80>
Watson Lake A	45	7 1	80	85	92	97	100	113	126
Whitehorse A	40	60	69	71	84	90	92	109	126
Whitehorse Riverdale	25	33	47	50	64	68	70	60	93
NORTHWEST TERRITORIES									
Aklavik	31	3?	58	71	79	87	92	97	101
Alert	o	0	0	0	1	3	7	12	18
Arctic Bay	o	0	4	6	9	20	24	36	54
Baker Lake	13	39	56	61	63	74	60	87	92
Brevoort Island	o	0	0	0	0	0	7	9	12
Broughton Island	o	0	0	2	5	7	9	14	27
Byron Bay A	13	16	37	43	51	60	44	77	84
Cambridge Bay A	13	30	45	46	51	40	64	76	81
Cape Oyer A	o	0	2	4	8	15	27	45	52
Cape Hooper	0	0	0	0	1	3	4	6	6
Cape Parry A	o	0	4	7	29	52	58	73	76
Cape Young A	o		12	13	31	46	56	71	93
Chesterfield	i5	5:	60	64	69	73	77	86	95
Clifton Point	0	5	11	12	26	4i	48	77	86
Clyde	0	o	0	0	3	6	8	11	30
Contwoyto Lake	8	8	27	35	50	60	44	74	86
Coppermine	23	31	37	48	57	6S	73	01	91
Coral Harbour A	1	11	42	44	56	62	63	69	79
Dewar Lakes	0	0	0	3	13	19	35	62	62
Ennadai Lake	24	63	68	71	76	79	90	9s	99
Eureka	o	6	23	26	4i	48	55	66	iiz
Fort Good Hope A	44	52	63	66	75	88	93	98	100
Fort Good Hope 2	i2	23	43	48	63	68	69	75	9$
Fort McPherson	7	47	64	70	60	85	89	95	100
Fort Norman	21	21	40	44	34	62	7i	8a	96
Fort Providence	30	39	57	65	71	76	85	96	116
Fort Reliance	62	71	77	88	95	103	108	li5	122
Fort Resolution A	28	44	79	90	97	106	108	115	i24
Fort Simpson	56	72	81	83	88	94	102	li5	119
Fort Simpson A	32	33	62	70	82	94	99	110	iil
Fort Smith	2	9 29	54	6i	64	66	91	93	93
Fort Smith A	7	27	50	do	72	01	89	96	io2
Frobisher Bay A	10	37	47	48	59	66	69	83	89
Gladman Point A	0	1	14	17	24	26	42	61	76
Hall Beach A	i	L	17	23	46	5 2	53	67	74
Hay River A	67	81	86	09	96	102	10a	113	126
Hay R/Paradise GDMS	57	57	86	88	93	95	99	111	112
Holman	o	1	4	8	16	27	33	47	60
Inuvik A	12	18	37	4i	50	53	76	88	89
10J03I000	o	0	0	0	1	4	7	12	19
Jenny Lind Island	7	8	11	13	23	31	32	49	60
Lady Franklin Point A	o	0	io	2i	35	55	62	74	91
Lake Harbour	11	11	31	44	S3	65	70	8s	88
Longstaff Bluff	o	0	4	13	21	40	43	67	78
Mackar Inlet	o	0	0	1	5	10	15	28	29
Mould Goy A	o	0	1	2	4	9	14	18	22
Nicholson Peninsula	o	i	6	8	i3	35	46	58	64
Norman Wells A	so	6 1	83	90	99	103	106	122	i31
Nottingham Island	o	i	8	11	19	27	40	52	71
Sadloping Island	o	0	0	0	5	8	9	52	61

Station	Earliest first fall frost	Probability of first temperature in fall of 0°C or lower on or before indicated dates						
		10% (1 in 10)	25% (1 in 4)	33% (1 in 3)	50% (1 in 2)	66% (2 in 3)	75% (3 in 4)	90% (9 in 10)
YUKON TERRITORY (Cont'd)								
Ross River	July 16	July 16	July 17	July 18	July 25	July 29	Aug 1	Aug 1(
Shingle Point A	July 18	July 25	Aug 3	Aug 8	Aug 14	Aug 23	Aug 27	Sept :
Snag A	July 18	July 26	AUS 3	Aug 4	Aug 9	Aug 18	Aug 18	Aug 21
Swift River	July 16	July 16	July 17	July 17	July 18	July 24	July 25	A us 1:
Teslin A	July 16	Ju2y 22	Aus 10	Aus 15	Aug 24	Aug 21	saps 1	SOpc 1
Tuchitua	Au$ 10	Aug 10	Aug 14	Aug 15	Aug 25	Aug 26	Aug 26	Aug 25
Watson Lake A	Aug 10	Aug 19	Auc 25	Aug 27	Aug 31	SCPC 6	Sepc 10	Sopt 1(
Whitehorse A	July 30	Aug 13	Aug 22	Aug 2S	Aug 29	Sepc 1	Sept 3	Srpt 1:
Whitehorse Riverdale	July 19	July 22	Aug 3	Aug 6	Aug 23	Aug 30	Aug '31	sapt 1
NORTHWEST TERRITORIES								
Aklavik	July 22	July 30	Aug 19	Aug 21	sepr 2	Sept a	Sept 12	sepc 1:
Alert	July 16	July 16	July 16	July 16	July 17	July 17	July 19	July 25
Arctic Say	July 16	July 16	July 17	Ju2y 17	July 20	July 29	Au8 2	AUS 16
Baker Lake	July 27	Aug s	Aug 24	Aug 29	Sapc 1	Sapt 4	SOpc 7	sapt 9
Brevoort Island	July 16	July 16	July 16	July 16	Ju2y 16	July 17	July 17	July 22
Broughton Island	July 16	July 16	July 16	July 16	July 18	July 19	July 21	July 29
Byron Bay A	July 21	July 26	A u g 8	Aug 12	Aug 18	Aug 30	Aug 31	Sept 5
Cambridge Bay A	July 22	Aug 3	Aus 11	Aug 1s	Aug 19	AUS 26	Aug 29	SePt 6
Cape Dyer A	July 16	July 16	July 17	July 17	July 21	July 26	Aug 3	Aug 18
Cape Hooper	July 16	July 16	July 16	July 16	July 16	July 18	July 18	July 19
Cape Parry A	July 16	July 16	July 16	July 19	A us 5	Aus 30	Sept 4	Sept 8
Cape Young A	July 17	July 11	July 20	July 23	Aus 11	Aug 28	Sapt 2	Sept 7
%4 sterfield	July 17	Aus 22	Aus 31	Sept 3	Sept 6	sapc 9	Sepc 12	Sept 15
Clifton Point	July 16	July 17	July 18	July 20	July 28	Aug 1s	Aug 28	Scpt 8
Clyde	July 16	July 16	July 16	July 16	July 17	Ju2y 18	Ju2y 19	July 21
Contwoyto Lake	July 17	July 24	Aus 9	Aug 12	Aug 19	Sepc 1	Sept 3	Sopt 7
Coppermine	July 23	Aug 2	A u g 9	Aug 13	Aug 22	Aug 30	Sept 2	Sept 8
Coral Harbour A	July 17	July 20	Aus 11	A us 18	Aug 22	Aug 26	Aug 28	Sept 1
Dewar Lakes	h@ 16	July 16	July 16	July 17	July 24	Aug 3	Aug 13	Sept 3
Dinadai Lake	Aug 9	4 17	sops 1	sops 3	Sopt 7	Scpt 9	sops 10	Sept 14
Eureka	July 16	July 17	July 19	July 22	Aug 8	Aug 11	A us 16	Aug 21
Fort Good Hope A	July 25	July 27	Aug 6	Aus 7	Aug 18	Aug 29	Sep$ 1	Sept 7
Fort Good Hope 2	July 2S	July 27	A us 2	A u g b	Aug 6	Aug 14	Aug 17	Aug 22
Fore McPherson	July 18	Aug 7	Aus 17	Aug 20	Aug 28	Aug 31	Sept 2	Sept 7
Fort Norman	Ju2y 22	JU2y 24	Ju3y 28	July 31	Aug 7	4 2 1	AUS 24	Sept 14
Fort Providence	July 24	JUly 31	Aug 16	Aug 19	Aus 2S	Scpc 2	Sept 4	Sept 20
Fore Reliance	Sept 1	s● pt 1	Sopc 12	Sapc 13	Sopt 16	Scpt 19	Sept 22	Scpc 25
Fore Resolution A	July 23	Aug S	Aug 27	Sept 3	Sapt 11	Sopr 16	sops 20	Sept 23
Fort Simpson	Aug 9	Aug 15	Aug 23	Aug 25	Sepc 1	Scpt 3	Sept 7	Sept 16
Fort Simpson A	July 17	July 23	Au8 10	Aug 13	Aug 22	Aug 31	&pr 3	Sept 8
Fort Smith	Aug 5	A u s 5	Aus 12	Aus 14	A ug 24	Aug 26	Sept 3	Sept 17
Fort Smith A	July 17	July 28	Aug 13	AUC 16	Aug 20	AUS 25	Aug 27	Sept 5
Frobisher Bay A	July 19	Ju2y 26	Aug 20	Aus 23	Au8 29	Sept 2	Sept 7	Sept 10
Gladman Po1oc A	July 16	July 16	July 17	July 27	JUly 29	AUC 6	Aug 9	Aus 24
Gull Beach A	Ju2y 17	July 17	JU2y 21	July 25	Aug 20	Aus 26	Aq 27	Srpc 3
Hay River A	Au8 18	Aug 25	Sept 5	Sept 6	s● pt 10	s● pt 16	Sept 17	Sept 24
Hay R/Paradise GDNS	Aug 15	Aug 15	Aug 19	Aug 27	Aug 31	s● pc 9	sapc 10	Sept 12
Holman	July 16	July 16	July 18	JUly 21	JUly 22	July 29	Aug 7	Aug 25
Inuvik A	July 26	July 27	Aug 2	Aug 5	A Ug 10	Aug 23	Alig 26	Scpt 5
Isachsen	Ju2y 16	Ju2y 16	July 16	July 16	JuAy 17	July 17	JUly 19	July 23
Jimmy Und Island	July 16	July 18	July 22	July 27	July 30	Aug 1	A us 7	Aug 20
Lady Franklin Point A	July 16	July 16	July la	JUly 22	Aug 19	Sept 1	s● pt 3	Sopt 11
Lake Harbour	July 16	July 16	Aug 6	Aug 17	Aug 28	Sept 2	sopr 10	Sept 16
Longstaff Bluff	July 16	July 16	July 17	JUly 19	July 28	Aug 13	Aug 15	Scpt 4
Mackar Inlet	July 16	Ju2y 16	July 17	JU2y 17	July 18	July 22	July 27	July 31
Mould Bay A	July 16	July 16	July 16	July 16	July 18	July 19	July 21	July 26
Nicholson Peninsula	July 16	July 16	July 17	July 20	July 23	Aug 5	Aug 22	Aug 31
Norman Wells A	July 26	Aug 7	Aug 21	Aug 28	S*pt 3	Sept 7	Sept 8	Sept 21
Nottingham Island	July 16	July 16	JuLy 17	July 20	July 27	Aug 3	Aug 18	Aus 29
Sadlopeing Island	July 16	Ju2y 16	July 16	July 16	July 17	J.ly 19	July 21	Sep t 3

PROBABILITY OF SPRING FROST

Tableau 4

Station	Earliest last spring frost	Probability of last temperature in spring of 0°C or lower on or after indicated dates							Latest last spring frost
		10% (1 in 10)	25% (1 in 41	33% [1 in 31	50% (1 in 2)	66% (2 in 31	75% (3 in 4)	90% (9 in 10)	
YUKON TERRITORY (Cont'd)									
Ross River	June 9	July 14	July 11	July 9	July 3	June 27	June 20	June 9	July 14
Shingle Point A	JUIW 8	July 10	June 30	June 29	June 27	June 23	June 17	June 14	July 12
Snag A	nay 29	July 7	July 2	June 28	JUIW 19	June 11	June 3	May 19	July 13
swift River	June 22	July IL	July 10	July 8	July 4	July 1	Juno 29	June 22	July 15
Teslin A	nay 28	July 4	Juno 29	Juna 25	June 17	June 12	June 10	Juna 4	July 14
Tuchitua	June 6	July 2	June 29	June 25	June 22	June 20	Juna 19	June 6	July 2'
Watson Lake A	May 11	June 15	June 10	June b	May "31	May 26	May 2s	May 18	June 25
Whitehorse A	May 13	June 24	June 19	June 14	June 5	June 2	May 30	May 21	July 2
Whitehorse Riverdale	June 5	June 24	JUOO 21	June 21	June 18	June 12	June 12	June 7	July 3
NORTHWEST TERRITORIES									
Aklavik	Nay 26	JUIU 30	June 19	Jurm 16	June 12	June 8	Juna 7	Juns 3	July 11
Alert	July 7	July 1$	July 15	July 15	July 15	July 14	July 13	July 11	July 15
Arctic Bay	JUIU 13	July 15	July 14	July 13	July 10	July 8	July 6	July 26	July 15
Baker Lake	June 7	July 6	June 29	June 27	Juna 25	June 19	Juna 18	June 10	July 15
Brevoort Island	July 4	Ju2y 1S	July 15	July 15	July 15	July 13	July 12	June 23	July 15
Broughton Island	July 3	July 15	July 1S	July 15	July 15	July 13	July 13	July 5	July 15
Byron Say A	June 12	July 15	July 7	July 3	Juno 28	June 23	Jun. 21	Juna 15	July 15
Cambridge Bay A	JUIU 4	July 11	July $	Juna 29	June 26	June 23	Juno 22	Juna 16	July 15
Cape Dyer A	JUIM 26	July 15	July 15	July 15	July 13	July 7	July ?	June 27	July 15
Cape Hooper	July 10	July 15	July 15	July 15	July 15	July 14	July 14	July 11	July 15
Cape Parry A	June 22	July 15	July 14	July 12	July 9	July 5	July 4	June 29	July i5
Cape Young A	June 10	July 15	July 13	July 12	July 9	July S	July 2	June 19	July 15
Chesterfield	JUM 13	July 9	July 2	July 1	June 21	JurN 25	June 24	June 18	July 14
Clifton Point	June 13	July 14	July 12	July 11	Juiy 6	June 29	June 28	Jun@ 16	July 15
Clyde	July 4	July 15	July 15	July 15	July 15	July 13	July 12	July 7	July 15
Contwoyto Lake	June 13	July 15	July 12	July 8	July 2	June 26	Junv 25	June 14	July 15
Coppermine	JUM 8	July 7	June 30	Juoo 28	June 26	June 21	Juno 19	June 14	July 13
Coral Harbour A	Juna 8	July 11	July 4	July 1	June 27	June 23	JuM20	June 17	July 15
Dewar Lakes	JUIW20	Julyt6	July 15	July 15	July 14	July 8	July 6	July 1	July 15
Ennadai Lake	Nay 30	July 7	June 25	June 24	June 18	June 11	JuM1O	JUOO 6	Ju2Y15
Eureka	Jun8 7	July 15	July 3	June 29	June 26	June 20	JUM16	JUOS1O	July 15
Fort Good Hope A	May 21	June 12	June 7	JUM 4	May 31 .	May 21	May 2?	May 23	July 13
Fort Good How 2	May 23	JUly 11	JUM 29	Juna 17	June 9	May 31	May 31	May 25	July 1]
Fort McPherson	May 23	June 27	June 13	June 9	June 6	JUIM 3	Juno 2	May 28	July 12
Fort Norman	May 23	JUly 12	June 21	June 18	JUIU 15	JUM 9	June 6	May 28	July 14
Fort Providence	thy 22	July 6	June 27	June 20	June 15	June 10	JUOA 5	May 29	July 13
Fort Reliance	May 19	June 29	June 21	June 20	June 16	JUIW 7	Jurm 2	May 24	July 11
Fore Resolution A	nay 19	Jun4 19	June 12	June 9	June 6	JUIU 2	May 28	May 24	July 9
Fore Simpson	May 10	June 23	Jun8 9	June 5	Juno 1	May 23	May 22	May 16	June 28
Fore Simpson A	nay 12	June 23	June 13	Juoa 10	May 31	May 21	May 24	May t5	June 24
Forc Smith	May 23	July 8	June 23	June 22	June 14	June 6	June 5	May 25	July 9
Forc Smith A	Hay 15	July 3	June 21	June 18	June 10	Jurm 1	May 29	May 20	July 15
Frobisher SAY A	Juna 13	July 12	July 7	July 4	July 1	JurN 21	Juna 19	JUIW 13	July 15
Isadean Point A	Juna 18	July 15	July 15	July 10	July 3	Juna 28	JUM 24	Juno 19	July 15
Hall Beach A	JUM 15	July 15	July 9	July 7	JUly 3	June 29	JUIU 27	JUIU 2t	July 15
Hay River A	May 11	JuM 17	Juno 11	June 9	June 6	June 4	May 30	May 24	Juna 27
Hay R/Paradise CONS	May 15	Juno 22	June 18	June 11	June 4	May 26	Nay 24	May 18	July 8
01,s0	JUM 16	July 15	July 15	JUly 13	JUly 10	July 7	July 2	June 26	July t5
Inuvik A	May 28	July 15	July 4	JUly 1	June 20	June 14	June 13	June 6	July t5
Isachsen	JUIU 30	Ju2y t5	July 15	JUly 15	JUly 15	July 13	JUly 11	July 7	July 15
Jamy Lind Island	JUM 23	July 15	July 13	JUly 12	July 6	July 3	July 1	Jum 25	July 15
Jbdy Franklin Point A	June 12	JuAy 15	July 14	JUly t3	JUly s	JUly 1	June 2s	June 16	July 15
Jake ffar60ur	June 17	July 10	July .6	JUly 2	June 30	June 26	JUIU 24	JUM 17	July 10
Jongstaff Bluff	Juno 22	July 15	July 14	JUly 11	JUly 4	JUM 29	June 26	Jurm 25	July 15
Jackar Inlet	July 1	Ju2y 16	July 15	July 15	JUly 14	JUly 11	July 10	July 1	July 15
Mould Bay A	July 1	July 15	July 15	July 15	JUly 14	J.ly 12	JUly 9	July 2	July 15
Nicholson Peninsula	Juno 21	July 15	July 13	July 12	July 10	July 5	July 3	Juno 28	July 15
Norman Wells A	May 14	JU04 12	Juno 2	May 31	May 27	May 22	May 20	May 16	June 28
Nottingham Island	June 25	July 15	July 13	July 12	July 8	July 4	July 4	June 29	July 15
Nadloping Island	Ju2y 7	July 15	July 15	July 15	July 15	July 11	JUly 10	JUly 7	July 15

SNOW COVER

STATION AND PROVINCE			OCCURRENCE OF SNOW COVER OF 1 INCH OR MORE			DEPTH OF SNOW COVER (IN						
			DATE OF FIRST SNOW COVER	DAYS WITH SNOW COVER	DATE OF LAST SNOW COVER	SEPT. 30	OCT. 31	NOV. 30	DEC. 31	JAN. 31	FEB. 28	MAR. 31
VICTORIA GONZALES HTS.	48° 25'N	123° 19'W	228 Ft.									
Earliest or Least			Nov. 12	0		0	0	0	0	0	0	0
Latest or Greatest				32	Mar. 25	0	0	0	0	8	0	0
Median (Middle Value)			Jan. 1	5	Feb. 22	0	0	0	0	0	0	0
Arithmetic Mean						0	0	0	0		0	0
VICTORIA INT. A	48° 39*H	123° 26w	53 n.									
Earliest or Least			Nov. 12			0	0	0	0	0	0	0
Latest or Greatest				32	Mar. 12	0	0	0	2	7	0	0
Median (Middle Value)			Ju. 17	8	Feb. 4	0	0	0	0	0	0	0
Arithmetic Mean						0	0	0			0	0
YUKON TERRITORY												
XXXXXX A	61° 39'N	137° 29'W	3170 n.									
Earliest or Least			Sept. 18	160	Apr. 6	0	0	0	2	4	6	1
Latest or Greatest			Nov. 5	216	May 17	3	4	9	12	15	2A	18
Median (Middle Value)			00%. 3	180	May 5	0	0	5	7	10	10	11
Arithmetic Mean			Oct. 5	183	May 3				7	10	10	10
DAWSON	64° 04'N	139° 26w	1062 9%.									
Earliest or Least			Sept. 15	136	Apr. 8	0	0	1	8	10	12	5
Latest or Greatest			Nov. 16	219	May 16	0	16	23	32	44	b3	44
Median (Middle Value)			Ott. 16	187	Apr. 26	0	3	12	18	24	24	20
Arithmetic Mean			Oot. 36	187	Apr. 27	0		11	18	23	24	23
MAYO LANDING	63° 36'N	135° 53'W	1625 Ft.									
Earliest or Least			Sept. 22	1s3	Apr. 14	0	0	2	3	4	10	2
Latest or Greatest			Nov. 10	217	May 7	0	11	20	28	30	39	36
Median (Middle Value)			oat. 16	181	Apr. 25	0	2	8	16	23	27	17
Arithmetic Mean			Ott. 16	183	Apr. 26	0		10	15	19	21	16
MAG A	62° 22'N	140° 24'W	1925 n.									
Earliest or Least			Sept. 18	in	Apr. 18	0	0	2	6	6	7	5
Latest or Greatest			Oot. 31	220	my 19	3	7	14	18	42	42	26
Median (Middle Value)			Sept. 29	204	May 4	0	4	5	13	17	20	16
Arithmetic Mean			08t. 4	2ol	May 3			8	12	17	19	16
TSLIN A	60° low	132° 45'W	2300 n.									
Earliest or Least			Sept. 29	143	Apr. 15	0	0	0	4	8	9	4
Latest or Greatest			2W. 25	212	May 19	4	9	17	15	32	27	28
Median (Middle Value)			Ott. lb	187	May 2	0	0	7	12	17	1s	14
Arithmetic Mean			Ott. 19	183	my 2				12	16	16	13
WATSON LAKE A	60° 07'N	128° 49'W	2248 n.									
Earliest or Least			Sept. 22	149	Apr. 20	0	0	2	9	10	10	12
Latest or Greatest			*2W. 29*	215	May 14	0	8	21	26	37	39	36
Median (Middle Value)			*Ott. 22*	189	May 3	0		10	20	27	31	20
Arithmetic Mean			*Ott. 20*	188	May 5	0		10	18	26	30	20
WHITEHORSE A	60° 43'N	135@ 04'W	2209 *n.*									
Earliest or Least			Sept. 28	127	Apr. 7	0	0	0	1	3	2	0
Latest or Greatest			Nov. 30	194	May 9	3	4	14	14	16	22	15
Median (Middle Value)			Oct. 28	167	Apr. 22	0	0	4	8	10	11	5
Arithmetic Mean			Oct. 24	165	Apr. 22				7	10	10	
NORTHWEST TERRITORIES												
AKLAVIK	68° lb'	135° 00'W	30 R.									
Earliest or Least			Sept. 2	206	May 13	0	0	3	4	5	5	9
Latest or Greatest			Nov. 1	244	Jun. 23	6	15	24	26	28	30	37
Median (Middle Value)			Sept. 29	23b	May 21	0	7	11	12	16	17	16
Arithmetic Mean			Oct. 1	229	May 21			11	13	16	17	20

APPENDIX IV

SAMPLE OPERATING STATEMENT

(Note: The complete set of operating statements are too bulky for inclusion in this report. They are, however, available upon request.)

Reid Collins

12-Dec-88

YUKON NURSERY PROPOSAL -BASED ON 5.0MM SEEDLINGS in 313B
CASH FLOW (WITH 10% CONTINGENCY AND FORGIVABLE GRANT)
Jan1,1989 to Dec31,1989

	JAN	FEB	MAR	APR	MAY	JUNE		AUG		OC	NOV	DE	
CASH IN													
20%EQUITY BY OWNER	218,000												218,000
40%FORGIVABLE GRANT													436,000
40%10 YEAR LOAN	436,000												436,000
Crop1									000				509 50
Crop3													
Crop4													
Crop5													
Crop6													
TOTAL CASH IN	000						50		000				98 50
COST OF SALES													
Supervision	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	24,000
Labour													0
Filling					7,000								
Thinning					500								,500
Spacing & Moving						37,000							7,000
Weeding													0
Irrigation & Fert								6,000					,000
Grading & Packing													0
Blockwashing													
Peat,chem,gri.,...					25,000								
Fertilizer-sow					3,125								25,000
Fertilizer-soTub						,500	,500	,500	2,500	,500			,500
Seed					5,000								5,000
Boxes,liners,wrap													
Hydro					1000	2000	2000	1000	400	400	1000	1000	8,800
Poly					42,500								42,500
Styro Blocks 313B					170,000								170,000
Mtce & Rep Labour													0
Mtce & Rep Supplies					1,250			1,500			2,250		
TOTAL COST OF SALES	2,000	2,000	2,000	2,000	274,375	81,000	24,000	17,500	5,900	5,900	7,750	8,000	432,425
OVERHEAD & ADMINISTRATION													
Salaries-Owner	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	48,000
Accounting and Legal		1,000		1,000		1,000			1,000			1,000	5,000
Insurance		7,000											7,00
Communications	300	300	300	300	300	300	300	300	300	300	300	300	3,600
Office Supplies	50	50	50	50	50	50	50	50	50	50	50	50	600
Property Taxes	200						1800						2,000
Travel & Marketing				100	100	100	100	100	100	100	200	100	1,000
Finance Working Capital		0	0	0	0	8,133	8,369	6,619	7,754	1,260	1,462	1,689	36,353
Finance L/T Debt		4,254	4,236	4,217	4,198	4,178	4,158	4,139	4,119	4,099	4,079	4,058	45,735
Employee Training							1000						1,000
Misc	150	150	150	150	150	150	150	150	150	150	150	150	1,800
Contingency	0	0	0	0	0	0	32375	0	18500	0	0	0	50,875

Dec 80

	4,700	16,754	8,736	9,817	8,730	17,977	53,302	15,358	35,373	9,959	10,241	11,347	202,963
CAPITAL													
Land	20,000												20,000
Land Clearing				75,000									1s,004
Machinery & Equip			15,000	120,s00	401,300	3,000		6S,000					370,000
Buildings & Greenhouses		30,000	30,000	[illegible]	luo Ooo								
Automotive	15,000			26,800									41,800
Misc Equipment													0
TOTAL CAPITAL	3S,000	30,000	4S,000	3s2,304	581,300	3,000	0	66,000	0	0	0	o	1,112,600
LOAN PRINCIPAL		1,929	1,947	1,966	1,985	2,005	2,025	2,044	2,064	2,084	2,104	2,125	22,278
row. CASH OUT	41,700	S0,S23	57,683	346,083	866,458	103,932	79,321	100,902	43,937	17,943	20,09S	21,472	1,7?0,264
NET CASH FLOW	612,300	(50,683)	(57,683)	(366,083)	(866,458)	(103,982)	244,423	(100,902)	577,063	(17,943)	(20,095)	(21,472)	(171,516)
OPENING BANK BAL	0	612,[illegible]	561,617	S03 934	137,851	(728,607)	(832,589)	(588,167)	(689,0S9)	(112,006)	(129,950)	(150,045)	0
NET CASH FLOW	612,300	(50,683)	(57,683)	(=: 083)	(866,458)	(103,982)	244,423	(100,902)	577,063	(17,943)	(20,095)	(21,412)	(171,516)
CLOSING BANK BALANCE	612,304	361,617	S03,934	137,851	(728,607)	(832,589)	(588,167)	(689,069)	(112,006)	(129,950)	(150,045)	(111,516)	(171,516)
TO CONVERT TO OPERATING BASIS													
NET CASH FLOW	612,300	(50,683)	(57,683)	(366,083)	(866,458)	(103,982)	244,423	(100,902)	577,063	(17,943)	(20,095)	[21,472)	(171,516)
ADD :CAPITAL	3s,004	30,000	4S,000	3s2,300	581,300	3,004	0	66,000	0	0	0	0	1,112,s00
:STYRO BLOCKS	0	0	0	0	170,000	0	0	0	0	0	0	0	170,000
:LOAN PRINCIPAL	0	1,929	1,947	1,964	t , m	2,00s	2,03s	2,044	2,044	2,044	2,104	2,12s	22,218
LESS: STYRO AMORT						4,120	4,720	4,720	4,720	4,120	4,120	4,120	33,040
DEPRECIATION							13,625	13,625	13,625	13,625	13,625	13,625	81,750
FINANCING CAPITAL	654000	0	0	0	0	0	0	0	436000	0	0	0	1,090,000
	(6,700)	(18,754)	(10,736)	(11,817)	(113,173)	(103,697)	220,103	(51,203)	124,782	(34,204)	(36,336)	(37,6921	(71,428)
													(71,42s)

12-Dec-88

YUKON NURSERY PROPOSAL -SAW ON 5.0MM SEEDLINGS in 313B
CASH FLOW (WITH 10% CONTINGENCY AND FORGIVABLE GRANT)
Jan1,1990 to Dec31,1990

	199s JAN	FEB	MS	APR	MAY	JL04S	JULY	AUG	SS?1	OCI	MOV	BEC	YEAR2 TOTAL
CASH IN													
20%EQUITY by OWNER													0
40%FORGIVABLE GRANT													
40%10 YEAR 10AS													0
Crop1					130,750				211,30s				416,250
Crop2						340,000			190,000				530,000
Crop3													0
Crop4													0
Crop5													0
Crop6													0
10TM CASH III	0	0	0	o	130,154	0	340,090	0	46?,500	o	0	0	946,250
COST or SALES													
Supervision	2109	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	25,200
Labour													
Filling	0	0	0	0	7350	0	0	0	0	0	0	0	7,350
Seeding	0	0	0	0	10375	0	0	0	0	0	0	0	10,375
Thinning	0	0	0	0	0	38850	0	0	0	0	0	0	38.850
Spacing & Moving	0	0	0	0	735	0	0	0	0	0	0	0	735
Weeding	0	0	0	0400	840	0	0	0400	0	0	0	0	10,080
Irrigation & Fert	0	0	0	0	0	0	0	0	0	0	0	0	0
Grading & Packing	0	0	0	0	0	0	0	16800	0	.0	0	0	16,S00
Blockwashing	0	0	0	0	0	0	0	0	I410	0	0	0	1.470
Peat,chem,grit,etc	0	0	0	0	36,no	0	0	0	0	0	0	0	: @
Fertilizer-sow	0	0		0	3,281	0	0	0	0	0	0	0	3,291
[ertllizer-soluble	0	0		0	0	2 62S	2 62s	2 625	2,625	2,625	0	0	13,125
Seed	0	0	0	0	5,250	'o	'o	'o	0	0	0	0	5,250
Boxes,liners,wrap	0	0	0	0	0	0	0	36,750	0	0	0	0	36,150
Propane heating	7,500	7500	5000	2500	1000	37500	17500	2500	500	1000	2500	5000	90.000
Hydro	1,000	1,000	1,000	1,000	400	2,000	2,000	1,000	400	400	1,000	1,000	12,200
Poly	0	0	0	0	44,625	0	0	0	0	0	0	0	44,625
Styro Blocks 313B					178,500								178,500
Mtce & Rep Labour													0
Mtce & Rep Supplies	0	0	0	0	1,313	0	0	1,515	0	0	2,3S3	0	5,250
TOTAL COST Of SALES	10,609	10,600	0,100	6,440	290,019	83,075	24,23s	71,750	7,095	6,125	7,963	8,100	534,491
OVERHEAD & ADMINISTRATION													
Salaries-Owner	4,200	4,200	4,100	4,200	4,200	4,200	4,300	4,200	4,200	4,200	4,300	4,300	50,400
Accounting and Legal	0	1,030	0	1,050	0	1,050	0	0	1,050	0	0	1,050	5,250
Insurance	0	7,350	0	0	0	0	0	0	0	0	0	0	7,350
Communications	315	"m	31s	315	31s	31s	31s	31s	315	315	53 31s	31s	3,780
Office Supplies	53	53	53	53	53	53		53		5353	0	53	630
roperly Taxes	210	0	0	"-"o	0	0	"--1,0:	0	b	0		0	2,100
Travel & Marketing	0	0	0	105	105	105	105	10s	105	105	210	10s	1,050
Finance Working Capital	1,930	2,136	2,558	2,800	3,040	5,825	6,961	4, 13a	5,116	654	854	1,018	31,150
Finance L/T Debt	4,031	4,017	3,995	3,975	392	3,952	3,9379	3661	3063	3.841	3,819	3,795	1023
Employee Training	0	0		0	0	0	0	1,050	'o	,841	0	0 0	47,623
Misc	2	158		158	158	158	158	158	158	158	158	158	1,050
Contingency				0	0	12375	0	34000	0	46250	0	0 0	1,890

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	10,$s2	19,338	11,278	12,633	3S,691	1s,636	52,640	12,sss	61,611	9,325	9,600	—10,753	252, M-- "----" "' "
Land													0
Land Clearing													0
Machinery & Equip					6s,330		lo,ooo	0					18,2s0
Buildings & Greenhouses													0
Automotive													o
Misc Equipment													0
TOTAL CAPITAL	a	0	0	0 60,2ss		0	Io,000	0	0	0	0	0	10,2s0
lass PRINCIPAL	2,146	2,166	2,1ss	2,200	2,231	2,2S2	2,214	?,3S6	2,318	2,342	2,364	2,30S	17,173
TOTAL CASH OUT	23,640	32,104	21,SS6	21,303	386,197	100,s63	09,13s	06,901	71,024	11,132	19,935	21,241	0s1,812
sat CASH nos	(23,648)	(32,104)	421,S66)	(21,303)	4247,441)	(100,S63)	3S0,S61	(S6,S01)	3S6,4?6	(17,792)	419,93S)	(21,241)	54,438
OPENING BANK BAL	(171,516)	(155,165)	(233,269)	(248,034)	(270 130)	(517,584)	(618,547)	(367 606)	(454,506)	(58,110)	(75,902)	(95,837)	(117,1(6)
NET CASH n o u	(23,649)	(32,104)	(21,566)	(21,303)	1241:441)	(100,S63}	250,861	(06:S01)	396,476	(17,792)	(1$,93S)	421,241)	54,438
CLOSING BANK BALANCE	(19S,16S)	(227,269)	(248,034)	(270,130)	(517,584)	(61 8,547)	(367,60S)	(454,506)	(ss,110)	(75,902)	(95,837)	1117,010)	(117,1)70)
10 CONVERT 10 OPERATING OASIS													
NET CASH nos	[23,640)	(32,10U	(21,S66)	(21,303)	(247,441)	(1 00,%M	2S0,061	(86,901)	3$6,416	411,192)	(19,935)	(21,241)	54,438
ADD :CAPITAL	o	o	0	0	60,250	o	10,000	o	0	o	0	0	*10,2s0*
:STYRO BLOCKS	*o*	0	0	*o*	170,500	*o*		*0*				*0*	170,500
:LOAN PRINCIPAL	. 2,146	2,166	2,100	2,200	2,331	*2,n2*	*2,214*	*2,3S6*	2,318	2,342	2,364	2,30s	27,173
LESS: STYRO AMORT	7,615	7,61S	7,615	1,61S	1,61S	1,61S	1,61S	7,615	7,615	*1,615*	7,615	*7,615*	*31,3s0*
DEPRECIATION	12,992	12,992	12,992	12,992	12,992	12,992	12,992	12,ss2	12,s93	12,992	12,992	12,992	155,904
FINANCING CAPITAL													0
	(42,1SS)	(30,54S)	(35,985)	(39,702)	(19,073)	(119,318)	242,528	(105,212)	370,187	(36,057)	(38,170)	(39,460)	91,077
													91,077

12-Dec-88

YUKON NURSERY PROPOSAL -USED W S.OHN SEEDLINGS in 0130
CASH FLOW (WITH TOX CONTINGENCY AND FORGIVABLE GRANT)
JAN 1,1991 to DEC31,1991

	1991 JAN	FEB	MAR	APR	MAY	JUNE	M I	AUG	SEPT	OCT	NOV	DEC	YEAR3 TOTAL
CASH Ia													
20IEQUITY BY OWNER													0
401FORGIVABLE GRANT													
40110 YEAR 10A4I													b
Crop1													0
Crop2					145,000				255,000				400,000
Crop3							357,000		199,500				556,500
Crop4													0
Crop5													
Crop6													0
TOTAL CASH In	0				5,000		7,000		94,500				996,500
COST of SALES													
Supervision	2,205	2,205	2,205	2,205	2,205	2,205	2,205	2,205	2,205	2, 205	2,205	"&205	26,460
Labour													
Filling	0	0	0	0	1,110	0	0	0	0	0	0	0	7,718
Seeding	0	0	0	0	91294	0	0	0	0	0	0	0	19,234
Thinning	0	0	0	0	0	40,193	0	0	0	0	0	0	40,193
Spacing & Moving	0	0	0	0	772	0			0	0	0		
Weeding	0	0	0	882	882	0	0	0	0	0	0		
Irrigation & Fert	0	0	0	0	0	0	0	8,820	0	0	0	9	0
Grading & Packing	0	0	0	0	0	0	0	17,640	0	0	0	0	17,640
Blockwashing	0	0	0	0	0	0	0	b	1,544	0	0	0	1,s44
Peat,chem,grit,etc	0	0	0	0	21,563	0	0	0	0	0	0	0	27,563
Fertilizer-sow	0	0	0	0	3,445	0	0	0	0	0	0	0	13,781
Fertilizer-soluble	0	0	0	0	0	2,756	2,756	2,756	2,756	,2.256		0	
Seed	0	0	0	0	5 513	0	0	0	'o 0	0	o	0	3,s13
Boxes,liners,wrap	0	0	0	0	0	0	0	30,588	0	0	0	0	30,500
Propane heating	7,875	7,875	5,250	2,625	1050	39375	18,...	2,625	525	I 030	2,625	5,250	94500
Hydro	1,050	1,050	1,050	1,050	'421	2,100	2,100	1,050	420	'420	1,050	1,050	12,810
Poly	0	0	0	0	46,856	0	0	0	0	0	0	0	46,856
Styro Blocks 3132													
Mice & Rep Labour	0	0	0	0	0	0	0	0	0	0	0	0	0
Mice & Rep Supplies	0	0	0	0	1,378	0	0	1,654	0	0	2,481	0	5,513
TOTAL COST of SALES	11,130	11,130	0,505	6,162	117,095	01,229	2S,436	75,338	7,450	6,431	8,361	8,50s	373,371
OVERHEAD & ADMINISTRATION													
Salaries-Owner	4,410	4,410	4,410	4,410	4,410	4,410	4,410	4,410	4,410	4,4to	4,410	4,410	52,920
Accounting and Legal	0	1,103	0	1,103	0	1,103	0	0	1,103	0	0	1,103	5,513
Insurance	0	7,718	0	0	0	0	0	0	0	b	0	0	7,718
Communications	331	"331	331	331	331	331	331	331	131	331	331	331	3,369
Office Supplies	5s	55	5s	$s	55	55	55		55	55	55	55	662
Property Taxes						0	1,985 4		'o	0	0	0	2,205
Travel & Marketing	0	0	0	110	110	110	110	110	110	110	221	110	1,103
Finance Working Capital	1,310	1,S06	1,953	2,196	2,436	2,439	4, 1s0	1,029	2,015	0	0	0	19,122
Finance 1/1 Debt	3,772	3,748	3725	3,701	3 677	3652	3, 21	3*602	3,...	3,552	3,526	3,501	43,661
Employee Training	0	0	'o	0	'o	'o	1,103	0	0			0	1,101
Misc	165	165	16S	16S	165	16s	165	tb5	165	165		165	1,985
Contingency					0	0	14500		35700	0 49450		0 0	99,650

12-0s(-00

	10,211	*13,11s*	*10,W*	*12,011*	*2s,60s*	*12,26s*	51,636	9,702	61,217	8,624	0,700	9,675	239,660
CAPITAL													
Land													0
Land Clearing													0
Machinery & Equip													o
Buildings b Greenhouses													0
Automotive													0
Misc Equipment						So,000							So,000
101M CAPITAL	0	0	0	0	0	So,000	0	0	0	0	b	0	So,000
LOAN PRINCIPAL	2,411	2,43S	2,458	2,482	21*	2,531	2,556	2,581	2,605	2,631	2,657	2,682	30,535
10IM CASH OUT	23,012	32,600	21,603	21,31S	14S,20S	1S2,025	79,628	87,621	11,212	11,606	19,12S	20,s62	693,s14
NET *CASH* FLOW	*(23,S12)*	*(32,600)*	*(21,603)*	*(21,31S)*	(20S)	[1S2,02S)	*277,312*	(87,621)	423,220	(17,686)	(19,725)	(20,S62)	302,96
OPENING BANK BAL	(117,078)	(140,890)	(173,570)	(195,173)	(216,488)	(216,774)	(368,799)	(91,427)	(179,048)	244,181	226,495	206,770	(117,078)
NET CASH FLOW	*(23,112)*	(32,680)	*(21:603)*	(21,315)	*(20S)*	(152,025)	277,372	(87,621)	423,228	(17,686)	(19,	*M1*	*(20,0621*	302,986
CLOSING BANK BALANCE	(140,890)	(173,5701	(19 S,1?3)	(216,488)	(216,774)	(368,799)	(91,427)	(179,048)	244,181	226,495	206,770	185,908	185,908
10 CONVERT 10 OPERATING BASIS													
NET CASH fLW	(23,S12)	(32,600)	(21,6031	(21,315)	[20S)	(1$2,02S)	217,312	(87,621)	423,221	(17,686)	(19,725)	(20,862)	302,986
Aoo :CAPITAL .	0	0	0	0	0	So,000	o	0	0	0	0	0	So,000
:STYRD BLOCKS	o	0	0	0	e	o	0	0	0	o	b	o	0
:LOAN PRINCIPAL	2,411	2,42S	2,4SS	2,402	2,SO6	2,s3t	2,ss6	2,s01	2,6s5	2,631	2,6s1	2,6s2	3s,533
1[SS: STYRD AMORT	9,600	9,600	9,6S0	9,600	9,600	9,C00	S,600	S,60S	9,60S	9,600	9,6S0	9,600	116,164
DEPRECIATION	11,642	11,642	11,642	11,642	11,642	11,642	11,642	11,642	11,642	11,642	11,642	11,642	139,704
FINANCING CAPITAL													0
	(42,7221	[S1,S47)	(40,467)	(40,155)	(19,101)	(120,816)	23S,606	(106,362)	484,511	(36,377)	(38,390)	(39,502)	127,657

121,6s1

12-Dec-88

YUKON NURSERY PROPOSAL -BASED ON 5.0MM SEEDLINGS in 313D
CASH FLOW (WITH 10% CONTINGENCY AND FORGIVABLE GRANT)
JAN 1 1992 to DEC31 1992

	JAN		MAR	APR	MA	UNE		AUG	SEP	OC	NOV	DE	
CASH IN													
20%EQUITY BY OWNER													
FORGIVABLE GRAN													
40%10 YEAR LOAN													0
Crop1													
Crop3					152,250				309,750				462,000
Crop4							300 000						
Crop5													
Crop6													
ASH					52 250		300 000		250				05 500
COST OF SALES													
Supervision	2,315	2,315	2,315	2,315	2,315	2,315	2,315	2,315	2,315	2,315	2,315	2,315	27,703
Labour													
					20,258								20,258
Thinning	0	0	0	0	0	42,832	0	0	0	0	0	0	42,832
Spacing & Moving	0	0	0	0	810	0	0	0	0	0	0	0	810
Weeding	0	0	0	926	926	0	0	9,261	0	0	0	0	11,113
Irrigation & Fert	0	0	0	0	0	0	0	0	0	0	0	0	0
Grading & Packing	0	0	0	0	0	0	0	18,522	0	0	0	0	18,522
Peat,chee,grit,etc	0	0	0	0	28,941	0	0	0	0	0	0	0	28,941
Fertilizer-sow	0	0	0	0	3,618	0	0	0	0	0	0	0	3,618
Fert ubl								89		89			
Seed	0	0	0	0	5,788	0	0	0	0	0	0	0	5,788
Boxes,liners,wrap	0	0	0	0	0	0	0	40,517	0	0	0	0	40,517
	26			56			294	56	55		756		
Hydro	1,103	1,103	1,103	1,103	441	2,205	2,205	1,103	441	441	1,103	1,103	13,451
Poly	0	0	0	0	49,199	0	0	0	0	0	0	0	49,199
Styro Blocks 313D	0	0	0	0	196,796	0	0	0	0	0	0	0	196,796
Mtce & Rep Labour	0	0	0	0	0	0	0	0	0	0	0	0	0
											60		
TOTAL COST OF SALES	11,687	11,687	8,930	7,100	319,746	91,590	26,708	79,104	7,822	6,753	8,779	8,930	588,836
OVERHEAD & ADM NI TRATION													
Salaries-Owner	4,631	4,631	4,631	4,631	4,631	4,631	4,631	4,631	4,631	4,631	4,631	4,631	55,566
Accounting and Legal	0	1,158	0	1,158	0	1,158	0	0	1,158	0	0	1,158	5,788
Communications	347	347	347	347	347	347	347	347	347	347	347	347	4,167
Office Supplies	58	58	58	58	58	58	58	58	58	58	58	58	695
Property Taxes	232	0	0	0	0	0	2,084	0	0	0	0	0	2,315
Travel & Marketing	0	0	0	116	116	116	116	116	116	116	232	116	1,158
Finance Working Capital	0	0	0	0	0	1,171	2,948	0	619	0	0	0	4,738
									256		98		
Employee Training	0	0	0	0	0	0	1,158	0	0	0	0	0	1,158
Misc	174	174	174	174	174	174	174	174	174	174	174	174	2,084
Contingency	0	0	0	0	15225	0	33000	0	51925	0	0	0	105,150

12-OK-OS

	8,915	17,918	8,630	9,871	33,917	10,994	52,827	8,601	62,283	8,s32	8,639	T @	230,812
CAPITAL													
Land													
Land Clearing													
Machinery & Equip													0
Buildings & Greenhouses													0
Automotive													9
Misc Equipment						S2,SO0							S2,soo
TOTAL CAPITAL	0	6	0	0	0	S2,SO0	0	0	t	0	0	0	52,500
LOAN PRINCIPAL	2,709	2,735	2,762	2,789	2,816	2,843	2,871	2,899	2,927	2,956	2,985	3,014	34,306
TOTAL CASH our	23,310	32,340	20,323	19,766	346,419	1s7,927	02,404	90,612	73,032	10,261	20,402	21,596	906,4s4
NET CASH nw	(23,310)	(32,340)	(30,323)	(19,700)	(194,229)	(1 S7,927)	397,S94	(9S,612)	446,211	(18,261)	120,402}	(21, S%)	145,046
OPENING SASS BAL	185,500	162,597	130,258	109,535	90,169	(104,060)	(261,987)	35,600	(55,005)	391,213	312,952	352,550	185,500
NET CASH nott	(23,310)	(32,340)	(20,323)	(19,766)	(194,229)	(157,927)	297,594	(90,612)	446,210	(10,261)	(20,402)	(21,596)	145,046
CLOSING BANK BALANCE	162,S91	130,2$s	109,s3s	90,169	(104,s00)	(2s1,9s7)	35,600	(ss,s0s)	391,213	312,9S3	3s2,ss0	33s,ss4	330,954
TO CONVERT TO OPERATING OASIS													
NET CASH FLOW	{23,310)	(32,340)	(20,323)	(19,766)	(194,229)	(157,927)	297,594	(9S,612)	446,210	(10,261)	(20,402)	(21,59S)	145,046
ADD :CAPITAL	0	0	0	0	0	52,500	0	0	0	0	0	0	s2,soo
:STYRO BLOCKS	0	0	0	0	196,796	0	0	0	0	0	0	0	1%,1%
:LOAN PRINCIPAL	1,709	2,73S	2,762	2,789	2,016	2,043	2,011	2,099	2,927	2,93S	2,9ss	3,014	34,3a
LESS: STYRO MOST	10,120	10,120	10,120	10,120	10,120	10,120	10,120	10,120	10,120	10,120	10,120	10,120	121,440
DEPRECIATION	10,344	10,344	10,344	10,344	10,344	10,344	10,344	20,344	I0,344	0,344	10,344	10,344	124,128
FINANCING CAPITAL													' o
	(41,065)	(50,069)	(30,02S)	(37,441)	(1S,0S0)	(123,04S)	200,001	(10s,177)	420,601	(3S,769)	(37,s01)	(39,0461	183,081
													113,0s1

12-Dec-88

YUKON NURSERY PROPOSAL -BASED ON 5.0MM SEEDLINGS in 313B
...SH ...OW CWITH ... CONTINGENCY AND FORGIVANCE GRANT
JAN 1,1993 to DEC31,1993

	1993 JAN	MAR	MA	JUNE	JUL	AUG	SEPT	OCT	NOV	DE	YEARS
CASH IN											
20%EQUITY BY OWNER											0
40%FORGIVABLE GRAN											-
40%10 YEAR LOAN											0
Crop1											0
Crop3											0
Crop4			156.000				325.000				481.000
Cr...					---,000		220,000				61.,00.
Crop6											0
TOTAL CASH			56 000		000		545 000				00
COST OF SALES											
Supervision	2,431	2,431	2,431	2,431	2,431	2,431	2,431	2,431	2,431	2,431	2,431	2,431	29,172
Labour													
Filling	0	0	0	0	8,509	0.	0	0	0	0	0	0	8,509
Seeding	0	0	0	0	21,271	0	0	0	0	0	0	0	21,271
Thinning	0	0	0	0	0	44,974	0	0	0	0	0	0	44,974
Spacing & Moving	0	0	0	0	851	0	0	0	0	0	0	0	851
Weeding	0	0	0	972	972	0	0	9,724	0	0	0	0	11,669
Irrigation & Fert	0	0	0	0	0	0	0	0	0	0	0	0	0
Grading & Packing	0	0	0	0	0	0	0	19,448	0	0	0	0	19,448
[illegible]	[illegible]												
Peat,chem,grit,etc	0	0	0	0	30,388	0	0	0	0	0	0	0	30,388
Fertilizer-sow	0	0	0	0	3,798	0	0	0	0	0	0	0	3,798
Fertilizer-soluble	0	0	0	0	0	3,039	3,039	3,039	3,039	3,039	0	0	15,194
Seed	0	0	0	0	6,078	0	0	0	0	0	0	0	6,078
Boxes,liners,wrap	0	0	0	0	0	0	0	42,543	0	0	0	0	42,543
Propane heating	8,682	8,682	5,788	2,894	1,158	43,411	20,258	2,894	579	1,158	2,894	5,788	104,186
Hydro	1,158	1,158	1,158	1,158	463	2,315	2,315	1,158	463	463	1,158	1,158	14,123
Poly	0	0	0	0	51,659	0	0	0	0	0	0	0	51,659
[illegible]					_06,___								_06,_36
Mtce & Rep Labour	0	0	0	0	0	0	0	0	0	0	0	0	0
[illegible]	[illegible]												
TOTAL COST OF SALES	12,271	12,271	9,377	7,455	335,733	96,170	28,043	83,060	8,213	7,090	9,218	9,377	618,277
OVERHEAD & ADMINISTRATION													
Salaries-Owner	4,862	4,862	4,862	4,862	4,862	4,862	4,862	4,862	4,862	4,862	4,862	4,862	58,344
Accounting and Legal	0	1,216	0	1,216	0	1,216	0	0	1,216	0	0	1,216	6,078
Insurance	0	8,509	0	0	0	0	0	0	0	0	0	0	8,509
Communications	365	365	365	365	365	365	365	365	365	365	365	365	4,376
Office Supplies	61	61	61	61	61	61	61	61	61	61	61	61	729
Property Taxes	243	0	0	0	0	0	2,188	0	0	0	0	0	2,431
Travel & Marketing	0	0	0	122	122	122	122	122	122	122	243	122	1,216
Finance Working Capital	0	0	0	0	0	0	1,572	0	0	0	0	0	1,572
Finance L/T Debt	3,140	3,110	3,080	3,050	3,019	2,988	2,957	2,925	2,893	2,862	2,829	2,797	35,650
Employee Training	0	0	0	0	0	0	1,216	0	0	0	0	0	1,216
Misc	182	182	182	182	182	182	182	182	182	182	182	182	2,188
Contingency	0	0	0	0	15600	0	33400	0	54500	0	0	0	103,500

Dec 88

	8,853	10,304	8,550	9,857	24,210	9,795	52,924	8,516	64,200	8,453	8,542	9,604	231,808
AP													
Land													
Land Clearing													
Machinery & Equip													0
Buildings & Greenhouses													0
Automotive													0
Misc Equipment						s, In							3s, 12s
10124, CAPITAL	0	0	0	0	0	33,123	0	0	0	.0	0	0	35,125
loon PRINCIPAL	3,043	3,073	3,193	3,133	3,164	3,195	3,226	3,258	3,290	3,321	3,354	3,386	38,546
TOTAL CASH OUT	24,167	33,648	21,030	20,445	363,107	164,285	84,194	94,834	1s,103	10,865	21,113	22, W	943,7SS
NET CASH non	(24,167)	(33,648)	(21,030)	(20,445)	(207,107)	(164,303)	309,005	(94,034)	4S9,297	(11,3SS)	421,113	(22,367)	1S1,244
OPENING BANK BAL	330,134	[illegible]	273,140	233,118	231,665	24,558	(139,727)	170,080	[illegible]	[illegible]	525,678	504,564	330,354
NET CASH FLOW	(24,167)	(33,648)	(21,030)	(20,445)	(207,107)	(164,285)	309,806	(94,834)	469,297	(10,865)	(21,113)	(22,347)	1S1,244
CLOSING BANK BALANCE	=11~1	213,140	2s2,110	231,665	24,558	(139,727)	170,080	75,246	34%343	525,678	304,564	412,198	482,198
TO CONVERT TO OPERATING BASIS													
NET CASH fLW	[24,167)	(33,648)	(21,030)	(20,445)	(207,107)	(164,285)	309,00s	(94,034)	469,291	410,0$S)	(21,113)	(22,30)	1S1,244
ADD :CAPITAL	0	0	0	0	. 0	53,123	0	0	0	0	0	0	55,125
: TYRO BLOCKS	0	0	0	0	206 63s	0	0	0	0	0		0	206 us
:LOAN PRINCIPAL	3,043	3,073	3,103	3,133	3: 164	3,1%	3,226	3,2SS	3,290	3,321	3,3s4	3,386	30:s46'
LESS: STYRO AMORT	12,31S	12,37S	12,37S	12,31S	12,31S	12,31S	12,375	12,37S	11,37s	12,11s	12,37S	12,3?S	140,500
DEPRECIATION	9,385	9,385	9,385	9,385	9,385	9,385	9,385	9,385	9,385	9,385	9,385	9,385	112,620
FINANCING CAPITAL													0
	(47,884)	(52,335)	(39,687)	(39,072)	(19,067)	(1?,725)	291,272	(113,336)	450,827	(37,304)	(39,519)	(40,741)	190,431
													190,431

12-Dec-88

YUKON NURSERY PROPOSAL -BASED ON 5.0MM SEEDLINGS in 313B
CASH FLOW (WITH 10% CONTINGENCY AND FORGIVABLE GRANT)
JAN 1,1994 to DEC31,1994

1994	JAN	MAR	MA	UNE	AUG	SEPT	NOV	YEAR6
CASH IN								
20%EQUITY BY OWNER								
3.%FORGIVABLE GRAN.								
40X10 YEAR LOAN								
Crop1								
Crop3								0
Crop4								0
			.000			.000		50 00
Crop6				413,500		231,000		644,500
ASN			00	500		572 000		49,500
COST OF SALES								
Supervision	2,553	2,553	2,553	2,553	2,553	2,553	2,553	30,631
Labour								
			335					22,335
Thinning	0	0	0	0	47,222	0	0	47,222
Spacing & Moving	0	0	0	893	0	0	0	893
Weeding	0	0	1,021	1,021	0	10,210	0	12,252
Irrigation & Fert	0	0	0	0	0	0	0	0
Peat,chem,grit,etc	0	0	0	31,907	0	0	0	31,907
				3.988				3,988
Seed	0	0	0	6,381	0	0	0	6,381
						600		
Hydro	1,216	1,216	1,216	486	2,431	1,216	486	14,829
Poly	0	0	0	54,242	0	0	0	54,242
Nice & Rep Labour	0	0	0	0	0	0	0	0
TOTAL COST OF SALES	12,884	12,884	9,846	7,828	135,552	100,970	29,446	87,213	8,624	7,445	9,678	9,846	432,223
OVERHEAD & ADMINISTRATION								
Salaries-Owner	5,105	5,105	5,105	5,105	5,105	5,105	5,105	5,105	5,105	5,105	5,105	5,105	61,262
Communications	383	383	383	383	383	383	383	383	383	383	383	383	4,595
Office Supplies	64	64	64	64	64	64	64	64	64	64	64	64	766
Property Taxes	255	0	0	0	0	0	2,297	0	0	0	0	0	2,553
Travel & Marketing	0	0	0	128	128	128	128	128	128	128	255	128	1,276
Finance L/T Debt							4,558	4,523					
Employee Training	0	0	0	0	0	0	1,276	0	0	0	0	0	1,276
Misc	0	0	0	0	0	0	0	0	0	0	0	0	0
Contingency	0	0	0	0	16400	0	41250	0	57200	0	0	0	114,750

12-60(-00

	8,571	18,492	8,248	9,618	24,707	@ 9 _ 53,181	8,202'	""Ok;t4j---~,130	8,221	'9,334	232,876		
CAPITAL													
Land													
Land Clearing													
Machinery & Equip													0
Buildings & Greenhouses													0
Automotive													0
Misc Equipment						57,881							57,881
TOTAL CAPITAL	0	0	0	0	0	57,291	0	0	0	0	0	0	57,881
RCIPAL	3,419	3,453	3,487	3,521	3,555	3,590	3,625	3,660	3,696	3,732	3,769	3,805	43,312
TOTAL CASH OUT	24,874	34,829	21,S00	20,967	163,814	171,998	86,232	99,075	?0,963	19,307	21,669	22,904	166,293
NET CASH FLOW	(24,874)	(34,029)	(21,S00)	(20,967)	106	(171,998)	327,260	(99,07S)	03,037	(IY,#I)	(21,669)	[22,400	303,207
OPENING BANK BAL	482,198	457,323	422,494	400,913	379,947	330,133	308,133	535,403	436230	929,365	916,058	888,389	482,198
NET CASH nou	(24,174)	(34,129)	(21,S00)	(20,967)	106	(171,998)	327,260	($9,07$)	493,037	[19,307)	(21,6631	(22,904)	303,207
CLOSING BANK BALANCE	457,323	422,494	400,913	31991947	380,133	208,135	33%403	436,328	929,365	910,058	888,389	865,485	86559495
10 CONVERT TO OPERATING BASIS													
NET CASH FLOW	(24,874)	(34,829)	(21,S00)	(20,%7)	106	(171,998)	327,260	(99,075)	493,03?	09,3071	(21,663)	(22,984)	383,207
ADJ :CAPITAL	0	0	0	0	0	57,881	0	0	0	0	e	o	57,001
:STYRO BLOCKS	0	0	0	0	0	0	0	0	0	0	0	0	0
:LOAN PRINCIPAL	3,419	3,4s3	3,4217	3,S21	3,SSS	3,590	3,62S	3,660	3,69s	3,732	3,769	3,00s	43,312'
LESS: Smo AMORT	11,205	11,205	11,205	11,205	11,205	11,20s	11,20s	11,20s	11,20s	11,20s	11,20s	11,20s	134,460
DEPRECIATION	8,099	8,099	8,093	8,095	8,099	8,099	8,099	8,099	8,099	8,099	8,099	8,099	97,188
FINANCING CAPITAL													0
	(40,759)	(50,680)	(3 1 1 = 1 1	(36,750)	(15,563)	(129,831)	311,589	(114,719)	477,429	(34,879)	(37,204)	(38,483)	252,752
													252,752

APPENDIX V

ROI CALCULATIONS

Reed Collins

WATSOW LAKE TREE SEEDLING NURSERY

FEASIBILITY ANALYSIS

1 MILLION SEEDLINGS PER YEAR.

WITHOUT YTG SMALL BUSINESS INCENTIVES GRANT

YEAR:	0	1	2	3	4	5	6	7	8	9	10	11
PURCHASE PRICE 10SS$												
LAWO		20000										
SITE IMPROVEMENT + ROADS		4oOoo										
BUILDINGS		155000										
POLYHOUSES		0000										
MACHINERY + EQUIPMENT		81000										
MOBILE EQUIPMENT		27000										
TOTAL PRICE		373000										
CAPEX SCHEDULE												
LAWO	0	0	0	0	0	0	0	o	0	o	0	0
SITE IMPROVEMENT + ROAOS	0	5250	5513	8788	8078	8381	8700	7030	138?	7757	8144	
BUILDINGS >	0	0	0	0	0	0	o	0	o	0	0	
POLYHOUSES	0	0	0	0	0	0	0	0	0	38783	0	
MACHINERY + EQUIPMENT	0	6250	5s13	5788	2018	51051	8?00	7030	7387	7757	8144	
MOBILE EQUIPMENT	0	0	0	0	0	60	o	0	0	0	0	
TOTAL CAPEX	0	10s00	11025	11576	12155	91892	13401	14071	14775	5429S	18289	
TOTAL REVEWUE	102OOO	189000	9000	21OOOO	212000	229950	241448	253520	266190	27950@	293401	
COST CP SALES	57000	5000	93000	98000	101000	102050	111353	116020	122768	125904	13s350	
OVERHEAD & ADMINISTRATION	76000	88000	92000	9?000	102000	107100	1124SS	110078	123002	130181	136090	
DEPRECIATION												
SITE IMPROVEMENT + ROADS		Zom	2103	2330	2503	2082	2887	3058	32S7	3404	3678	3002

BUILDINGS		6200	5952	5714	548s	5252	SOS5	48s3	4s59	4413	4294	4122
POLYHOUSES		**5000**	4SW	40s0	364s	3281	2ss2	28s?	2391	2152	**5815**	S234
MACHINERY + EQUIPMENT		**16200**	14010	12311	1100s	10020	**18227**	1s021	14144	12793	11700	11057
MOBILE EQUIPMENT		**8100**	solo	3960	2718	le4s	11099	**8189**	5733	4013	2009	1968
TOTAL **DEPRECIATION**		**37500**	3229S	2S373	2S410	23193	4osO0	34670	30184	2S094	28382	202s1
FINANCING												
L CFO **INTEREST**		**8000**	220W	32000	**44000**	**60000**	**63000**	**66150**	004s8	72030	78s77	8040s
MORTGAGE INTEREST		34000	32000	**0000**	2?OO0	24000	**21000**	17000	13000	**8000**	3000	o
MORTGAGE PRINCIPAL		**17000**	12000	**21000**	24000	27000	3moo	34000	3s000	43000	4moo	0
PROFIT BEFORE TAX		**-108500**	**-70295**	-1s313	-01418	**-91193**	-wSow	**-100189**	-84120	-88317	**-87538**	-8S245
CUM PROFIT BEFORE TAX		- **108500**	- 17878s	=2s52ss	-338s86	-42?11S	-s3s77s	-03sss0	**-730088**	-81840s	**906003**	-001248
TAX **PAYABLE**		o	o	o	o	o	o	o	o	o	o	0
PROFIT AFTER TAX		- **108500**	-1029s	**-78373**	-8141s	-91103	**-108000**	- **100189**	**-84120**	-88311	-87538	-8524S
ADD BACK DEPRECIATION		37500	3220S	28373	2S418	23193	4osO0	**34679**	301s4	26804	2S382	26281
MINUS CAPEX		0	10s00	1202s	**11578**	121ss	91092	13401	**14071**	14?7s	S4298	16209
MINUS MORTGAGE PRIN		**17000**	wow	21000	24000	2?OO0	**0000**	34000	**8000**	430C0	47000	0
NET CASH FLOW	-373000	**-88000**	**-87500**	-s002s	-01s78	**- 107155**	-1820s2	-112911	- 11s007	-1102S7	-160453	-75253
CUMULATIVE CA3H FLOW	**-373000**	**-46** -	-s28500	-s0ss2s	**-700101**	-80?2s8	**-996348**	-1109260	**-** 122S260	-1344S23	**-1504976**	- 1S80229
CAP. Yn 11 **CF** a 15X												-s016s0
TOTAL CASH FLOW	**-373000**	**-88000**	-07s00	-s002s	-01s70	- lo71ss	- 10s092	-112911	**-118007**	-119257	**-180453**	**-501888**
CUM TOTAL **CASH** FLW	-3730co	**-461000**	**-526500**	-608s2s	-100101	-8072S8	-0SS340	-12022S0	-122S2S0	-1344S23	=1504970	-200SS03

PW OF TOTAL **CASH FLOW** -s0s111

IRR OF TOTAL CAEli **FLOW** -200.20%

WATSON LAME TREE SEEDLING NURSERY

FEASIBILITY ANALYSIS

1 MILLION SEEDLINGS PER YEAR.

WITH Y.T.O. SMALL BUSINESS INCENTIVES GRANT

YEAR:	0	1	2	3	4	6	6	7	8	9	10	11
PURCHASE PRICE 1988$												
LAUD		20000										
SITE IMPROVEMENT + ROADS		**40000**										
BUILDINGS		**155000**										
POLYHOUSES		**50000**										
MACHINERY + EQUIPMENT		**8 1000**										
MOBILE EQUIPMENT		27000										
TOTAL **PRICE**		373000										
CAPEX SCHEDULE												
LAND	o	0	o	0	0	0	0	0	0	0	. 0	o
SITE **IMPROVEMENT + ROADS**	0	62S0	**5613**	6788	60?8	6381	**8700**	7030	**7387**	?7s7	8144	
BUILDINGS	0	o	o	0	o	0	0	0	0	o	0	
POLYHOUSES	0	0	0	**0**	0	**0**	0	0	0	38783	0	
MACHINERY + **EQUIPMENT**	0	S260	5513	S788	6078	.61061	8700	7038	**7387**	11s7	8144	
MOBILE EQUIPMENT	*0*	o	0	o	0	34460	0	0	o	o	0	
TOTAL **CAPEX**	*0*	w o o	11026	11610	12166	**9 1892**	13401	14071	14776	**54296**	16289	
TOTAL REVEWE	102MO	**189000**	**199000**	**2 10000**	21OWO	220060	241440	2S3620	266196	2?9s06	2934S1	
COST **OF** SALES	**57000**	83000	**92000**	**98000**	**00000**	**105000**	110260	116763	121S61	127626	134010	
OVERHEAD **& ADMINISTRATION**	7WO0	**89000**	**93000**	**98000**	**103000**	1081s0	1136S8	110236	**125 197**	131467	138030	
OEPRECIATIOH												
SITE **IMPROVEMENT + ROADS**	**000**	2183	2330	2503	2682	2887	**3058**	3267	3464	3616	3902	

BUILDINGS		6200	5052	5714	5485	5268	50s5	4853	4659	4473	4294	4122
POLYHOUSES		50CC	45CC	40s0	384s	3281	2ss2	2857	2391	2152	5815	6234
MACHINERY + EQUIPMENT		102CC	1401c	12311	11008	wc20	18227	1s021	14144	12793	11786	11057
MOBILE EQUIPMENT		8100	5210	3969	2 n 8	1045	11698	8188	6133	4013	2009	1986
TOTAL DEPRECIATION		37500	3220S	28313	25418	231S3	40300	34678	30184	20S94	28382	26281
FINANCING												
L OF O INTEREST		12W0	18000	23000	30000	40000	420co	44100	4230s	48820	51051	S3EC4
MORTGAGE INTEREST		17000	16000	15000	14000	12000	10000	8000	7CO0	4000	20CC	o
MORTGAGE PRINCIPAL	-	8000	9000	I W O	12CW	3000	6000	000	19000	21cC0	24CCC	0
PROFIT BEFORE TAX		-97500	-492S5	-S2373	-55418	-59193	-70000	-70139	-64967	-SccCE	-61013	-s8443
CUM PROFIT BEFORE TAX		-97500	-148785	-199168	-2S4588	-313779	0 38877a	-4S2918	-S24888	-534062	-845985	-704408
TAX PAYABLE		0	o	o	o	o	o	o	0	0	o	0
PROFIT AFTER TAX		-97500	-49295	-52373	-s5418	-s9123	-76000	-70139	-64967	-80088	-61013	-58443
ACC BACK DEPRECIATION		375m	32295	23373	2S418	23193	0800	34678	30184	26894	2S382	20281
MINUS CAFEX		o	m o o	11025	11s?$	121ss	81892	13401	14071	14775	54208	16289
MINUS MORTAGE PRIN		EoOC	9000	11000	12coo	13000	15000	17000	19000	21ccc	24CCC	o
X21 CASH fLW	-223300	-68000	-36S00	-4202s	-s3s70	-s1155	-142022	-85861	-67854	-68947	-110027	-48451
CUMULATIVE CASH FLW	-223800	-291800	-328300	-37432S	-421201	-4820s0	-031140	-897010	-764884	-833810	-944737	-993189
CAP. m 11 CF a 15X												-323008
TOTAL CASH FLCU	.223800	-68000	-3s500	-4202S	-s3s18	-011ss	-142092	-s5861	-67854	-68947	-110927	-323008
CUM TOTAL CASH FLOW	-223800	-291800	-328300	-37432S	-427201	-4030ss	-831148	-897010	-764884	-833810	-944737	-1267746

W OF TOTAL CASH FLW -532381

IRR OF TOTAL CASH FLW -1OO.UX

WATSON LAKE TREE SEEDLING NURSERY , ,

FEASIBILITY ANALYSIS

3 MILLION SEEDLINGS PER YEM.

WITHOUT YTQ SMALL BUSINESS INCENTIVES CRAW

YEM:	0	1	2	3	4	s	6	7	a	9	10	11
PURCHASE PRICE 1988$ -												
LAND	20000											
SITE IMPROVEMENT + ROADS	70000											
BUILDINGS	305000											
POLYHOUSES	50000											
MACHINERY + EQUIPMENT	000											
MOBILE EQUIPMENT	31000											
TOTAL PRICE	788000											
CAPEXSCIIEOULE												
LAND	o	0	0	0	0	0	0	0	0	0	0	0
sITE IMPROVEMENT + ROADS	0	6260	5513	6788	6078	0301	8700	7038	1387	7767	8144	
BUILDINGS	0	0	0	0	0	0	0	0	o'	o	0	
POLYHOUSES	0	0	0	0	0	0	0	0	0	116360	0	
MACHINERY + EQUIPMENT	0	5250	5513	67$8	8078	. 109780	8700	7036	7387	' 7757	0144	
MOBILE EQUIPMENT	0	0	0	0	o	39s8s	o	0	o	0	0	
TOTAL CAPEX	0	10500	11025	11678	121S6	1ss?06	13401	14071	14775	131863	18209	
TOTAL REVENUE	305000	588000	598000	631000	657000	083660	124343	760660	198680	838S17	880443	
COBT OF SALES	191000	290000	317000	332000	360000	378000	396900	41B746	43?582	460481	4B2434	
OVERHEAD & ADMINISTRATION	99000	128000	135000	142000	148000	166400	183170	171329	179895	188890	190334	
OEPRECIATION												
SITE IMPROVEMENT + ROADS	3500	3588	3684	3789	3903	4027	4161	4306	446S	4624	4800	

BUILDINGS		12200	11712	11244	10794	10382	9948	0660	9188	8801	8449	Sill
POLYHOUSES		15000	13500	121s0	1093s	9842	8861	7972	7174	84s7	17446	1S702
MACHINERY + EQUIPMENT		38400	31770	2651S	22372	19113	3724a	31134	26315	22s20	1S615	17289
MOBILE EQUIPMENT		9300	6510	4551	3180	2233	13432	9402	8582	4507	322S	2268
TOTAL DEPRECIATION		78400	67080	66163	51080	46463	73507	822 19	63s43	488s3	533 19	481s0
FINANCING												
L Of O INTEREST		13000	37000	38000	400M	46000	51450	54023	66124	59580	62538	666SS
MORTGAGE INTEREST		59000	60000	6s000	51000	45000	0000	33000	2s000	16000	71000	o
MORTGAGE PRINCIPAL		29000	35000	39000	44000	60M0	58000	63000	76000	76000	98000	0
PROFIT BEFORE TAX		-135400	-14060	-0163	14020	8647	-8507	15031	372 19	58697	3310	85851
CUM PROFIT BEFORE TAE		-135400	-146460	.166632	-140712	-132188	-140873	-126642	-8S423	-26726	-2041@	S0436
TAX PAYABLE		Q	0	0	o	0	0	0	o	o	0	1o1o4
PROFIT AFTER TA2		-135400	-14060	-8153	142'20	8541	-8607	16031	37219	58697	3310	?s747
AOO BACKDEPRECIATION		78400	8?060	%s1s3	51080	46463	73607	822 19	S3S43	40663	6331S	46166
MINUS CAPEX		o	10600	11025	11578	12156	166106	13401	14071	14776	131803	16289
MINUS MORTGAGE PRIN		22000	35000	36W0	44000	60000	56000	63000	70000	70000	98000	0
NET CASH fLW	-768000	-86000	7600	187s	40424	-S156	-14s706	849	691	11770	- 17123S	107617
CUMULATIVE CASH fLCM	-768000	-854000	-846600	=844S2S	-834101	-S42266	-888963	-088114	-08?422	.075640	-1146S81	-1039264
cAf. YR 11 Cf a 15X												71744s
TOTAL CA6H fLW	-768000	-86000	1600	1975	10424	-8156	-146706	840	891	11776	-171235	11744s
CIN TOTAL CASH FLW	-768000	-854000	.846600	-844526	-034111	-842266	-9s6663	-666114	-987422	-975848	-1146S61	-42S438

W OF TOTAL CASH fLCU -502113

IRR Of TOTAL CASH FLOW -s.45s

WATSON LAKE TREE SEEDLING NURSERY

FEASIBILITY ANALYSIS

3 NILL1OH SEEDLINGS PER YEM.

WITH YTQ 3UALL BUSINESS INCENTIVES ORANT

YEAS:	0	1	2	3	4	s	o	7	8	9	10	11
PURCHASE PRICE 1988$												
LANO		20000										
SITE IMPROVEMENT + MACE		70000										
BUILDINGS		305000										
POLYHOUSES		000										
MACHINERY + EQUIPMENT		192000										
MOBILE EQUIPMENT		31000										
10IAL PRICE		768000										
CAPEX SCHEDULE												
LAW	o	o	o	o	0	o	0	0	0	0	0	0
SITE IMPROVEMENT + ROADS	0	S250	5513	5788	son	8381	8700	703s	73s7.	17s7	8144	
BUILDINGS	0	o	0	o	0	o	0	0	0	0	0	
POLYHOUSES	0	0	0	0	0	0	0	0	0	116350	0	
MACHINERY + EQUIPMENT	0	S2S0	5513	5788	6078	109780	8700	7038	7387	17s7	8144	
MOBILE EQUIPMENT	0	o	0	0	0	39s$5	0	0	0	0	0	
TOTAL CAPEX	0	losoo	llo2s	11s78	121s5	155708	13401	14071	1477s	131883	16289	
TOTAL REVENUE	30s000	568000	598000	631OOO	657000	689850	724343	60	798588	838s17	880443	
C03T OF SALES	10WOO	290000	317000	332000	360000	3 7 -	39ss00	418745	437ss2.	458461	402434	
OVERHEAO & ADMINISTRATION	9000	12s000	13s000	141coo	149000	1s5400	1s3170	171329	179895	188800	1ss334	
DEPRECIATION												
SITE IMPROVEMENT + ROADS	3s00	3588	3s84	3780	3W3	40	4181	430s	44s0	4624	4800	

BUI101NO3		12200	11712	11244	10794	10362	8248	0560	0168	8801	8449	8111
POLYHOUSES		15000	13500	12160	10935	0842	88s7	7872	7174	84s?	1?448	15702
MACHINERY + EQUIPMENT		30400	31?10	20519	22372	1s113	37243	31134	2631S	22520	1ss7s	17289
MOBILE EQUIPMENT		9300	8510	4557	3180	2233	13432	0403	8582	4807	322S	22S8
TOTAL DEPRECXATION		78400	87080	58153	S108O	4s463	73607	82218	63543	48853	S331O	481s9
FINANCING												
L Of C INTEREST		240W	29000	23000	18000	000	w o o	1643s	18207	17017	17ss8	18781
MORTGAGE INTEREST		29000	30000	28000	26000	23000	20000	18000	13000	moo	4000	o
MORTGAGE PRINCIPAL		14000	17000	0000	22000	5000	28000	31000	36000	32000	8000	0
PROFIT BEFORE TAX		-116400	23021	38847	84920	88s41	40243	70618	89738	109240	114870	1327S4
Cuu PROFIT BEFORE TAX		-116400	-92480	-s6832	8288	*7s834*	124077	194895	284431	393s71	5086s1	841405
TAX PAYABLE		o	0	o	1578	11313	0201	12005	33830	42804	44842	51774
PROFIT AFTER TAX		-116400	23021	38847	83341	SS234	40041	58613	55906	66638	70137	80980
AOO BACK DEPRECIATION		78400	81080	58153	51080	4s463	73607	82210	63643	48853	63319	481SS
MINUS CAPEX		0	10500	11025	11570	12155	15s70s	13401	14071	14775	131s63	1828S
MINUS MORTGAGE PRIN		000	1?000	20000	22000	25000	28000	31000	35000	39000	480W	o
NET CASH FLW	.480800	-52000	03600	6397s	80845	83S32	-7016s	78431	60378	59715	-66407	112860
CUMULATIVE CASH FLOW	-480800	-512800	-448300	-38532S	-304480	-240848	-311108	-234874	.174228	-114681	-170s88	-58138
CAP. Vs 11 CF @ 15%												752332
TOTAL CASH FLOW	-480800	-52000	63500	03976	8084s	63S32	-701s8	78431	603?8	50715	-58407	752332
CUM ToTAL CASH FLW	.480800	-612s00	.442300	-38s32s	-304480	-240848	-311108	-234814	-174298	-114601	-110888	681344

PW OF TOTAL CASH FLOW -242099

IRR OF TOTAL CASH FLOW 9.50%

WATSON LAKE TREE SEEDLING NURSERY

FEASIBILITY ANALYSIS

S MILL1oM SEEDLINGS PER YEAR.

WITHOUT YTG SMALL BusINESS INCENTIVES ORANT

YEAR:	0	1	2	3	4	6	0	7	8	9	To	11
PURCHASE PRICE 10088												
LAND		20000										
SITE IMPROVEMENT + ROADS		100000										
BUILDINGS		47sooo										
POLYHOUSES		250000										
MACHINERY + EQUIPMENT		2wooo										
MOBILE EQUIPMENT		43000										
TOTM PRICE		1107000										
CAPEX **SCHEDULE**												
LAND	0	0	o	0	0	0	0	0	0	0	o	
SITE **IMPROVEMENT** + ROADS	0	62S0	5513	5188	8078	8381	6700	7030	7387	77s7	8144	
BUILDINGS	0	o	o	0	0	0	0	0	0	0	0	
POLYHOUSES	0	0	0	0	0	0	0	0	0	193818	0	
MACHINERY + **EQUIPMENT**	0	5250	6S13	S7W	8018	181442	6700	7038	7387	77s7	8144	
MOBILE EQUIPMENT	0	o	o	0	0	64880	0	0	0	0	0	
TOTM CAPEX	0	lowo	11025	11518	1215S	2S2704	U401	14071	14775	208429	16289	
TOTM REVENUE	509000	946000	997000	10S2000	1095000	1149760	1207238	1267599	133007@	1387628	146740s	
COST **OF SALES**	295000	000	4WOW	S13000	SSS000	6869S0	616288	947112	679468	713441	740113	
OVEWEAO **& ADMINISTRATION**	122000	188000	176000	186000	105000	2047W	214988	22S737	237024	24887S	281310	
DEPRECIATION												
SITE IMPROVEMENT + ROADS	5000	S013	5038	507s	s 12s	6188	S284	S3S2	S4S4	6S80	5698	

BUILDINGS		19000	3S240	175 10	188 10	16130	1S402	14872	14278	13706	13 158	12832
POLYHOUSES		2s000	22500	202s0	1822s	16403	14782	13288	119s7	10782	29077	26169
MACHINERY + EQUIPMENT		59s00	4ss90	4021S	33320	27878	80592	498 13	412SS	34484	29130	24940
MOBILE EQUIPMENT		12s00	2030	6321	442S	3091	18832	13042	9130	6391	4474	3132
TOTAL DEPRECIATION		121100	103873	09333	17864	88841	114686	9S278	8197s	70797	8141s	72S70
FINANCING												
L OP C INTEREST		wow	49000	38000	23M0	18000	18900	19845	20S37	21879	22073	24122
MORTGAGE INTEREST		91000	84000	87000	80000	71000	62000	slow	9000	26000	10000	0
MORTGAGE PRINCIPAL		4s000	54000	61000	69000	77000	87000	97000	109000	123000	50000	0
PROFIT BEFORE TAX		-139700	84328	117ss7	172 138	1833s9	182484	20s830	2S2938	295012	320823	3s0281
CUM PROFIT BEFORE TAX		- 139700	.ss3?3	02224	234430	417789	580273	788102	1042041	1337853	1658875	20180s2
TAX PAYABLE		o	o	10590	36838	71510	83389	81444	98646	11s307	12s121	140s10
PROFIT AFTER TAX		-130700	84328	107077	13S208	111849	9011s	1273S6	1S4282	180445	10S702	219771
ACO BACK DEPRECIATION		121700	103873	8s333	77864	88841	114686	96278	8107s	70797	81416	72S10
MINUS CAPEX		o	10500	11025	11578	121ss	2S2704	13401	14071	1477s	200429	18289
MINUS MORTAGE PRIN		4sooc	54000	61000	9000	77000	000	97000	loscoo	1230C0	150000	0
NET CASH FLOW	-1187000	-83000	123S00	12438S	132586	9133s	- 12S923	113203	113196	113487	-S2311	27S0S2
CUMULATIVE CASH FLOW	- 1187000	- 1250000	- 1126500	-loo211s	-889529	-778194	-904116	-7908s3	-677657	-s84100	-640s01	-370449
CAP. YR 11 CP a 15%,											•	18403s0
TOTAL CASH FLOW	-1187000	-83000	123S00	12430S	132s86	0133s	- 12S223	113223	113196	113487	-82311	18403s0
CUM TOTAL CAM FLOW	-I107OOO	- 1250000	- 1126500	- 1002115	-889s29	-7781s4	-s04139	-7908s3	-677657	-ss4120	-040s01	1183848

PW OF TOTAL CASH FLOW -708958

IRR Of TOTAL CASH FLOW 7.74s

WATSON LAKE TREE SEEDLING NURSERY
FEASIBILITY ANALYSIS
6 MILLION SEEDLINGS PER YEAA.
WITH YTG SMALL BUSINESS INCENTIVES ORMT

YEM:	0	1	2	3	4	6	8	T	0	9	m	11
PURCHASE PRICE 1988$ -												
LAND	20000											
SITE IMPROVEMENT + ROADS	100000											
BUILDINGS	4760W											
POLYHOUSES	25000D											
MACHINERY + EQUIPMENT	289000											
MOBILE EQUIPMENT	430DD											
TOTAL PRICE	1187000											
CAPEX SCHEDULE												
LANO	0	o	D	D.	0	0	D	o	0	D	o	
SITE IMPROVEMENT + ROADS	D	6260	6613	5788	6078	6381	6700	7038	7387	1761	8144	
BUILDINGS	o	0	0	0	0	0	0	0	0	' 0	D	
POLYHOUSES	D	0	0	0	0	o	0	0	0	123016	0	
MACHINERY + EQUIPMENT	D	6260	6613	6788	6078	191442	6700	7036	7387	1167	8144	
MOBILE EQUIPMENT	o	0	0	0	0	64880	0	0	0	0	0	
TOTAL CAPEX	0	10500	11025	11578	12166	262704	13401	14071	1477S	206429	10210	
TOTAL REVENUE	9000	946000	996000	1062000	1095000	114S760	120723S	1267599	1330979	1307628	140?405	
COST OF SALES	295000	4410m	489000	613000	9000	586950	@16200	647112	679468	713441	740113	
OVERHEAD & ADMINISTRATION	12100D	168000	177000	186000	194000	203700	213805	224618	235608	247599	259979	
DEPRECIATION												
SITE IMPROVEMENT + ROADS	5000	2013	6030	6016	6125	5188	5284	6352	6464	6669	5698	

BUILDINGS		19000	18240	17510	16810	16138	15492	14872	14278	13708	13158	12632
POLYHOUSES		25000	22500	20250	18225	16403	14762	13286	11957	10762	29077	26169
MACHINERY + EQUIPMENT		59800	48890	40215	33329	27879	80592	49813	41258	34484	29138	24940
MOBILE EQUIPMENT		12900	9030	6321	4425	3097	18832	13042	9130	6391	4474	3132
TOTAL DEPRECIATION		121700	103873	89333	77884	68641	114888	96278	81975	70787	81416	72570
NANC NG												
L OF C INTEREST		36000	37000	19000	5000	2000	2100	2205	2315	2431	2553	2680
MORTGAGE INTEREST		48000	47000	44000	40000	36000	31000	26000	20000	13000	5000	0
MORTGAGE PRINCIPAL		22000	27000	31000	34000	39000	43000	49000	55000	61000	75000	0
PROFIT BEFORE TAX		-110700	143328	177867	230136	235359	211334	252572	291618	329476	347520	383062
CUM PROFIT BEFORE TAX		-110700	32628	210294	440430	675788	887123	1139695	1431313	1760788	2108308	2491370
TAX PAYABLE		0	5547	32468	89753	91790	82420	98503	113731	128495	135533	149394
PROFIT AFTER TAX		-110700	137781	145199	140383	143569	128914	154069	177887	200980	211987	233668
ADD BACK DEPRECIATION		121700	103873	89333	77884	68641	114888	96278	81975	70787	81416	72570
MINUS CAPEX		0	10500	11025	11578	12155	252704	13401	14071	14775	209429	18289
MINUS MORTAGE PRIN		22000	27000	31000	34000	39000	43000	49000	55000	61000	75000	0
NET CASH FLOW	-712200	-11000	203953	192507	172871	161055	-52124	187946	190791	196002	8974	289949
CUMULATIVE CASH FLOW	-712200	-723200	-519247	-326740	-154069	6986	-45138	142808	333598	529601	538574	828524
CAP. YR 11 CF @ 15%												1932995
TOTAL CASH FLOW	-712200	-11000	203953	192507	172871	161055	-52124	187946	190791	196002	8974	1932995
CUM TOTAL CASH FL	-712200	-723200	-519247	-326740	-154069	6986	-45138	142808	333598	529601	538574	2471569

PW OF TOTAL CASH FLOW	58629
IRR OF TOTAL CASH FLOW	21.46%

APPENDIX VI

ALASKA REVIEW

Reid Collins

- MEMO -

TO: Mr. Jim Collins
Reid, Collins and Associates, Ltd.
FRM: Cal Kerr
DATE: 13 December 1888
SUBJ: Alaska Seedling Demand

This is a memo report regarding Alaska's market for seediings, current production, and future demand. Mr. Gary Kenwood, Reid, Collins Nurseries, is evacuating possible nursery establishment in the Yukon Territory and wishes some idea of Aiaska potential.

You contacted me on 5 December and foilowed-up with additional suggestions on 12 December. As discussed, I attended a 2 day workshop on boreal forest management here in Anchorage on December 8th and 9th. *Most* of the state's reforestation and nursery specialists were at that meeting; my comments follow.

Summary. Current seedling demand for the southcentrai and interior portions of Alaska is estimated at 800,000 to 1,000,000 trees per year. Production is not meeting demand with the State Forest Nursery growing 200,000 to 400,000 trees per year, depending on budget support. Seedling cost is $0.25/tree with costs projected at $0.32 to $0.35 in 1989. Most of the demand is iocated at Fairbanks with lesser amounts used north and south of Anchorage. This demand is currently 100% containerized (Leach tubes).

About 1,000 to 1,500 acres are harvested each year in the southcentral and interior portions of Alaska, mostJy (95% plus) state owned. A rough ratio of planted to seeded acreage is 1/3 planted and 2/3 seeded.

A considerable number of seediings are used for non-timber reiated uses: Arbor day, shelterbelts, farms, genetic tests (in cooperation with the U.S. Forest Service at Fairbanks).

Discussions. I spoke with Mr. Dave Waiiingford (907-762-2122) about the current reforestation program. Dave is a forester-in-charge with the State Department of Natural Resources (DNR), Division of Forestry (DOF).

Oil prices have put the DNR in a severe budget 'crunch" and the nursery - reforestation program will receive minimum support for the foreseeable future. Dave indicated the nursery currentfy has more demand than it can fill; this was confirmed by the nursery manager, Joe Stehiik (discussion following).

A possibie policy change is the current Reforestation Fund, established but not funded. Under State provisions, proceeds from stumpage can be set aside for purposes of reforestation on harvested iand. The legislature views the process as "dedication of non-legislatively appropriated funds" and has not supported it. Senator Betty Fahrenkamp (Fairbanks) has toid the DNR/DOF she wiil submit a biii into the next legislative session (starting January, 1989) to require a minimum number of

acres to be reforested at a stated $500 per acre. Possibility of passage is

State forest Nursery. The State Forest Nursery is located about 10 miles of Anchorage at Eagle River. The Nursery Manager is Joe Stehlik; he can reached at 907.894-5660 or addressed at:

State Forest *Nursery*
SR9001 Hyiand Road
Eagle River, AK 99577

Production of containerized seedlings *(mostly 4* cubic inch Ray-Leach tub three years noted is:

1989 (est)	4oo@00	$0.32 each
1986	200,000	$0.2s "
1987	200,000	$0.25 "

The nursery has two (2) greenhouses, built in 1982/83. They are heated v gas. Labor is provided by inmates from the adjacent Eagle River Correctic Institute (averaging about $5-7 per person per day).

Joe is a graduate agronomist with 20 years experience growing seedlings, and grasses in Alaska; he was formerly with the State Division of Agricultu Materials Center in Palmer. I hired him as Nursery Manager in 1976/79 be ieaving State Government

A technician has been assigned to the nursery over the years but there is the current time. Joe estimates a manager with 3 technicians could grow r the needed seedfings on a two crop per year basis (100 day cycles - Mao October).

Other Facilities. There are no bare root or transplant nurseries in Alaska, h white spruce seedlings from a Fairbanks seed source were grown (2-O or Red Rock Nursery in Prince George around 1978. The 110 day growing se Fairbanks put the trees at risk in Prince George's 7040 day season; I reca *10%* survival. Testing was designed to evaluate survival and growth of the stock against Alaskan container stock. I do not know current resutts of this

The U.S. Forest Service eetabiiahed a container nursery in Petersburg abou before (or after!) the State's nursery, They are currently at a low ebb with t 'reforestation backlog" apparently erased. Joe recalls potential production a 1,000,000 seedling level with most recent costs near $0.75 per seeding. Th level federal nursery must recover both capital and operating costs; the sta recovers operating costs only. Accounting is "tight" at the former and "loos latter.

Rex Lantz at the Alaska Tree Company in Fairbanks has tried seedling proc on both a limited container and bare root basis with little success. Mann Le owner of Alaska Greenhouses here in Anchorage, also grew 6" spruce seec

(Containerized) in 1977 and 1978. Retail pricing was about $0.50 each; I believe he only grew a single crop.

Reforestation. The Tanana State Forest at Fairbanks has a dedicated land base and a 2.5 MM6F per year AAC. Most refore@tion in the Interior (north of the Alaska mountain range - running east to west about 120 miles north of Anchorage) will be on cut lands within this forest. Current spacing for white spruce seedlings is *8x6 (about 600* per acre).

Steve Clautice (907-451-2660), reforestation forester at Fairbanks noted the following data:

1988	11O aores planted
1987	308 aores
1986	265 awes
1985	303 acres

Current estimated costs per acre are:

$8&/~:	*planting* labor
	site prep
150/acre	seedlings

$280/acre total (about $0.50 per tree)

The State also uses direot seeding (with site preparation) at Fairbanks. Current costs are $36/acre (contract) and $50/acre (State force account). The ratio of planting to seeding, under the Tanana State Forest Management Plan, is:

1,040 acres	harvested, per year
260 acres	planted
780 acres	direot seeding

60th disk trenchers and Cats with shear blades have been used. A production ratio of 3 aores per hour is fairly normal.

Steve noted the DOF was searching for an alternative seedling source due to: (1) *poor* financial support for the nursery, reducing production below levels needed at Fairbanks, (2) difficulty of matching budget funds to sowing needs when trees are grown on a calendar year basis and funds appropriated on a June-July fiscal year basis, (3) potential of "root bound" seedlings when 2 year old Leach tube stock is planted, arid (4) inconsistent size (2 inches to 8 inches) and condition of stock (tops flushing as they are planted).

The DOF has contacted one or more nurseries in B.C. (RCN?) or Washington for trial shipments of about 10,000 trees. The scope of the reforestation backlog is unknown but is apparently increasing.

Opinion. I feel the Alaska seedling market segment has a limited, but profita potential for a Yukon based nursery. The limit is due to the relatively low lev timber harvest. I see increasing demand on the timber resource both in the and the southcentral area. Actual demand will depend on (1) export markets local processors. Alaska has been a "last in first out" supplier and we appea on or near the top of this upsurge.

The greatest profit potentiat would be *realized with* a mix of products, includi seedlings (both bare-root and containerized) and wholesale nursery stock. A truck could haul both from, say, Whitehorse or Watson Lake. The Yukon nur could bold material from Aldergrove and ship on demand.

Quality plant material, whether seedlings or nursery stock, would build dema time; I suspect local retailers are somewhat prjce sensitive but quicker respo (from the Yukon versus Tacoma or Vancouver) and consistent, high-quality n would build market share.

APPENDIX VII

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REFERENCES

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" Reid Collins

YUKON TERRITORY GOVERNMENT

DEPARTMENT OF ECONOMIC DEVELOPMENT:

MINES AND SMALL BUSINESS

FEASIBILITY SIWDY

YUKON TREE SEEDLING NURSERY

DECEMBER, 1988

Prepared by:

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L.G. Kenwood, R.P.F.

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