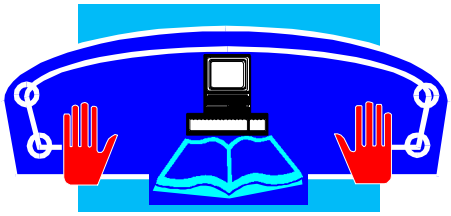

Interest Relater To Hydrocarbon Development In The Beaufort Sea - Mackenzie Delta Region Mining/oil/energy, Nwt Oil Industry

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DEPARTMENT OF ECONOMIC DEVELOPMENT AND TOURISM

INTERESTS RELATED TO

HYDROCARBON DEVELOPMENT

IN THE

BEAUFORT SEA - MACKENZIE DELTA RIGION

September 2, 1983

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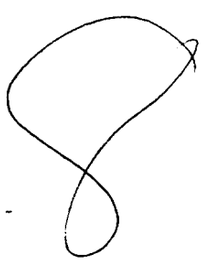

SECTION 1 - EMPLOYMENT AND TRAINING

A. GNWT Interests regarding Employment and Training

The Government of the Northwest Territories plays a major role in ensuring the maximization of employment and training opportunities for northern residents from resource development projects. The Beaufort Sea development is viewed as a major opportunity to further the development of the labour force, to provide wage employment, and to transfer skills to Northerners.

During the exploration phase of hydrocarbon development in the Beaufort Sea/Mackenzie Delta region, the employment practices of operators such as Dome Petroleum, Esso Resources Canada and Gulf Canada Resources have clearly provided evidence of willingness to comply by employing and training northerners. The overriding interest of the GNWT, in this regard, is that there be an adequate level of northern participation in the development and production phases of development. In order to ensure that hydrocarbon development proceeds in a manner acceptable to local residents, on-going industry/government planning for northern labour force participation and the development of affirmative action plans must necessarily occur.

Specific concerns of the GNWT in the employment and training area include:

1. Industry's labour force demand estimates are an essential ingredient in the process of planning the participation of Northerners in the labour force. As such, a clear indication that the proponents will provide detailed labour force demand information to the GNWT on a timely basis is needed.

2. A major objective of the GNWT with respect to non-renewable resource development is to maximize net benefits accruing to residents of the N.W.T. Increasing the level of direct

participation by Northerners in terms of both direct employment and business participation are means of achieving this goal. With regard to employment, Industry's affirmative action initiatives such as those undertaken by Dome, Esso and Gulf are encouraged. Nevertheless, the position occupied by Northerners on the skills ladder indicates that much greater emphasis should be placed in the areas of industrial training programs and adult educational upgrading by both Industry and government. Planning such programs cannot proceed without a clear understanding of skill level and entry level employment requirements.

3 Special employment initiatives must also be developed by Industry to provide employment opportunities for Northerners. Northerners are considered to be an employment disadvantaged group and therefore qualify for preferential treatment for both hiring and training.

4. Expansion of industrial training programs by the proponents is necessary. The rate of promotion of northerners is inadequate and it is therefore incumbent upon Industry to incorporate improved emphasis on career pathing and career development in action plans.

5. The use of hiring and training quotas by Industry is unacceptable. to the GNWT. In their place, on-going affirmative action employment programs should be relied upon.

6. Agreement should be reached by the Government of the Northwest Territories and individual companies active in the area as to the geographic parameters of recruitment. Depending upon community aspirations, the GNWT favours the expansion of the rotational employment drawing area.

7. Contractors to the oil industry should implement training programs of their own and rely on government apprenticeship programs when their work activities are of sufficient length and where appropriate.

8. As has been the case in the past, Industry must provide an indication of its willingness to co-operate with the GNWT in the monitoring of those aspects of hydrocarbon development which affect the well being of N.W.T. residents.

B. Northern Employment in Beaufort SeaExploration Activities

The three companies active in the Beaufort Sea in recent years have, in the main, succeeded in attaining their objectives with respect to the direct employment of Northerners and through purchases from local business. Nevertheless, even higher levels of direct northern employment and business participation could have been possible had further affirmative action initiatives been undertaken.

As indicated in the EIS, the economic impacts of Dome's exploration activities were estimated for the period 1976 to 1983 in a study undertaken for the GNWT. According to that study, the significance of wages and salaries paid to NWT residents rose gradually over the period under consideration, specifically "wages and salaries amounting to an estimated $9.5 million were earned by NWT residents in 1980 as a result of (Dome) Canmar's drilling operations in the Beaufort Sea. This represents nearly 3 percent of total m personal income. The direct Canmar wages and salaries paid to N.W.T. residents in 1980 of $3.5 . million constituted approximately 1 percent of total N.W.T. personal income. In 1980, the total indirect impact expressed as northern value added was slightly over $6.o million or 1.7 times direct wages and salaries. "3 The significance of indirect wages resulting from the purchases by operators in the Beaufort Sea hydrocarbon development are even of greater significance when compared with direct hydrocarbon industry wages for some N.W.T. communities such as Hay River and Yellowknife.

3. Outcrop Ltd., Dome/Canmar, Beaufort Sea Operations - An Economic Analysis 1976 - 1%0, P. 71

Dome/Canmar Beaufort Sea Employment

A review of employment statistics associated with Dome Petroleum's Beaufort Sea exploration activities since 1976 indicates a record of improved commitment to the northern labour force for each year when compared with the previous yeax, with the exception of 1982. In that year 388 NWT and Yukon residents were hired; 221 occupied "full time regular" positions, and direct employment income amounted to $5,678,000.

It is evident from Table 1.1 that over the 7 year period, Northerners increasingly occupied higher skill level positions as the ratio of skilled and semi-skilled positions to unskilled positions has increased. However, manpower program delivery staff are concerned that a 'Bottleneck" in industry training programs has been encountered and that many northern employees of oil companies operating in the Beaufort Sea have not progressed beyond entry level positions. Industry's responsibility in this area should be to develop improved employee upgrading and career development programs.

The rapid rise in income earned by Northerners from direct employment in Dome's Beaufort Sea drilling operations from $400,000 in 1976 to $5,678,000 in 1982, has resulted in spin-off benefits in all Beaufort Sea/Mackenzie Delta communities, particularly Tuktoyaktuk and Inuvik.

Although the history of Dome's successful efforts to include NWT residents in its operations in the Beaufort is not necessarily a direct indication of what will occur in this regard in the production oriented future, a number of concerns which have been expressed by GNWT officials working in the region are reflected in Tables 1.1 and 1.2.

The first is the decrease in real earnings received by Northerners for 1982 when compared with 1981. A levelling off in construction related activity could explain this partially; secondly the total number of NWT residents hired in 1982 declined slightly over the 1981 period, as shown in Table 1.2.

Dome has indicated that the committed portion of its 5-year Beaufort Sea exploration program will generate 2,627 person-years of employment while the contingent work program will create 2,154 person-years of work based on what the proponent refers to as conservative assumptions. With regard to the employment of northern residents for the exploration program negotiated with COGLA, Dome indicated that the previous share of between 20 and 25% of the labour force occupied by northerners is expected to continue during the course of exploration activities. It is of course important to recognize that labour force management practices, in the broadest sense, differ for the exploration phase as opposed to the production phase of development. Specifically, during the production phase, because it is longer term in nature, there is greater reliance on permanent housing arrangements and on relocating southern workers in Beaufort communities to the extent acceptable to the communities affected and to the GNWT.

Esso Resources Canada - Beaufort Sea Employment

Evidence of Esso's commitment toward increasing the degree of Northern labour force participation in Beaufort Sea exploration activities is presented in Table 1.3. The figures presented in the table were derived from the EIS (5/3.1.1) as well ss from Esso's 1982 Canada Benefits submission to COGLA concerning progress with Mackenzie Delta - Beaufort Sea exploration agreements. During the 1982 season some 42 percent of persons employed by Esso and its contractors were Northerners. Of course, the size of Esso's Beaufort Sea exploration program ($3.7 million employment expenditure; 3,330 work months) in comparison with a much larger future production development scenario, makes it impossible to make direct references regarding the level of participation by Northerners in production related activities.

Table 1.1

Dome/Canmar Beaufort Sea Exploration

NORTHERN EMPLOYMENT

	1976	1977	1978	1979	1980	1981	1982[1]
1. TOTAL NUMBER OF NORTHERNERS HIRED	127	194	181	224	338	389	388
Skilled	6	19	33	66	86	log	81
Semi-skilled	16	58	50	47	86	95	124
Unskilled	105	117	102	111	166	185	183
2. NUMBER OF REGULAR FULL-TIME POSITIONS	76	97	98	130	194	243	221
Skilled	6	19	21	21	40	73	65
Semi-skilled	16	34	28	29	51	58	71
Unskilled	45	38	36	61	30	112	85
3. COMPLETED THE SEASON	35	73	83	120	145	230	205
Resignations		66	63	57	90	86	72
Released		35	19	25	43	51	48
Casual lay-offs		14	20	18	15	22	63
4. FEMALE EMPLOYEES	16	26	33	38	44	55	99
5. TOTAL MAN-DAYS	4,650	13,540	14,718	16,718	17,991	24,882	24,735
6. TOTAL EMPLOYMENT INCOME (m)	400	800	1,150	2,050	3,500	5,300	5,678

1. Revised Figures reflect end of year amounts.
2. Source: Dome Petroleum Limited, 1982 Beaufort Sea Socio-economic Review.
3. Northern Employment statistics inlcude N.W.T. Yukon residents.

Table 1.2

Dome/Canmar Beaufort Exploration Program

COMMUNITY EMPLOYMENT AND LABOUR FORCE ESTIMATES

	Dome Employment 1982	Dome Employment 1981	Total Active Labour Force	Employed Labour Force [1]	Unemployed Labour Force [1]
Aklavik	50	66	230	170	60
Coppermine	37	29			
Ft. McPherson	46	37	180	140	40
Holman	16	7			
Inuvik	77	83	1705	1605	100
Paulatuk	6	12	40	35	5
Sachs Harbour	20	14	55	50	5
Tuktoyaktuk	70	85	225	195	30
Yellowknife	21	25	5705	5490	215
Other NWT	16	18			
Total	359	376			

Table 1.3

Esso Resources Canada Limited

Beaufort Sea Exploration Program

OVERVIEW OF EMPLOYMENT RESULTS

	Employment of Northerners (Total)	Esso Payroll ($ Million)
1978	59	1.3
1979	63	1.4
1980	81	2.0
1981	77	1.7
1982	86	2.0

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1. Direct employment expenditures represent almost 1,400 work months for Northerners.
2. EIS (Vol 5./P 3.3)
3. Esso Resources Canada Limited, Mackenzie Delta- Beaufort Sea Exploration Agreements, Canada Benefits Annual Report - 1982, April 1993.

Progress in advancing northern labourers up the skills ladder is evident in Table 1.4.

Rotational Employment Opportunities

The effects of rotational employment on the social fabric of Beaufort Sea communities are largely unknow, although a fair number of hypotheses have been advocated by social scientists and industry observers, most noteably, by Dr. Charles Hobart.

One factor which is certain is that Beaufort Sea/MacKenzie Delta community residents have had a relatively long history of involvement in rotational employment schemes associated with exploration activities. Many northern residents have been attracted by the flexibility of such work arrangements and by the free time it allows for resource harvesting activities and, perhaps more importantly, by the ability to maintain community and social ties. Reliance on work rotation schemes in the Beaufort area also has resulted in the spreading of direct employment benefits to communities lacking well developed business infrastructures such as Holman, Sachs Harbour, Paulatuk and Coppermine. One of the major constraints weighing against the expansion of worker rotation programs is the cost which is borne, by industry associated with transporting small numbers of workers over long distances.

Evidence of recent rotational employment participation is provided in Table 1.5. It should be noted that Dome/Canmar figures presented in Table 1.1 represent number of Northerners hired, whereas figures for Esso and Gulf represent the number of northern residents employed for longer than 3 months. From the table it is apparent that Dome draws northern resident employees from primarily 9 communities, Esso rotates northern employees primarily from 4 communities, and Gulf draws largely on 3 communities. As exploration and oil field development proceeds, it is anticipated that more and more communities in the N.W.T. will

Table 1.4

Esso Resources Canada Limited

Beaufort Sea Exploration Program

WAGE EARNER PROGRESSION

'DRILLING

TOTAL	42 persons in 1982	
	Progression within Category	19
	Progression to new Category	7
	Promotion to Supervisor	1
	TOTAL PROMOTIONS	27

TRANSPORTATION

26 persons in 1982	
Promotion to management, Professional and technical	1
Progression with Category	3
Progression to new Category	1
TOTAL PROMOTIONS	5

TRADES

17 persons in 1982	
Progression within Category	8
Progression to new Category	1
TOTAL ALL CATEGORIES	41

1. Esso Resources Canada Limited, Mackenzie Delta - Beaufort Sea Exploration Agreement, Canadian Benefits Annual Report - 1982, April, 1983.
2. Of the 86 Northerners employed in the Beaufort Exploration Program, 41 progressed within their categories or moved to a new category.

gain greater significance in the supply of labour to Beaufort Sea operations. Indeed, the Government of the Northwest Territories encourages the extension of employment opportunities to residents of local communities through the expansion of rotation schemes.

c. Entry Level Barriers

Employment entrance level requirements are a particularly significant concern for the northern labour force because the level of rigidity directly affects participation by Northerners. As many Northwest Territories residents, including individuals residing outside of the Beaufort Sea/MacKenzie Delta region, who are interested in direct employment in the oil industry lack the required formal education and training, credit should be given where appropriate to informal experience. This practice has been followed to a certain extent by Esso Resources in the Norman Wells project with some success.

The need for lifeskills training and academic upgrading programs cannot be over emphasized. This was one of the major findings of the comprehensive manpower planning study conducted in early 1983 for the Joint Needs Assessment Avisory Committee (JNAC), a committee comprised of the GNWT, the Dene Nation and the Metis Association of the N.W.T. which was formed to undertake a long-term training needs assessment project for the Mackenzie Valley area. Specifically the JNAC recommendation was:

> In planning future training programs in the North the Government of the Northwest Territories, industry and local communities must encourage local program delivery with academic upgrading being one of the major areas of emphasis.

While it is recognized that the development and delivery of adult upgrading programs is a GNWT responsibility, co-operation from industry in providing information on job qualification requirements and in employing graduates of training and lifeskills upgrading programs is necessary.

D. Northern/Local Hiring Preference

It is generally accepted by both the Government of Canada and the Government of the Northwest Territories that the maximization of employment and career opportunities for workers from regional labour forces is a major government objective to be attained through petroleum exploration, development and production. A means of achieving this objective should be through the adoption of a northern hiring preference policy. Under such a policy, Industry gives first consideration to Northerners where available and qualified.

In general, the exploration companies operating in the Beaufort Sea/MacKenzie Delta area have adopted similar policies. Nevertheless, measures should be taken to ensure that Northwest Territories residents have every reasonable opportunities to obtain meaningful and stable employment from future hydrocarbon development in the Northwest Territories. Hydrocarbon development agreements which are currently reached between the Canada Oil and Gas Lands Administration and subsurface rights holders should include provisions for a northern resident hiring preference. The role of local hiring preferences is widely accepted by COGLA for oil and gas developments on Canada Lands.

Hiring and training quotas have been relied on periodically by both the mining and oil industries in their northern operations. The experience of the GNWT with employment quotas associated with the operations of Nanisivik, a lead zinc mine located on Baffin Island, has exemplified the constraint posed for Northern labour force development by such an approach. The use of detailed employment quotas by the proponents is unacceptable to the GNWT for the following reasons:

1. Employment quotas preclude the participation of some northerners in certain positions;

2. Once quotas are filled, there is a tendency to decrease emphasis on northern hiring initiatives;

3. Unrealistic quotas become an issue of confrontation between industry and government; and

4. The establishment of workable and realistic employment quotas is difficult at best due to differences among project activities and community labour force characteristics.

In rejecting quotas as a means of increasing the number of oil industry jobs held by northerners, the GNWT stresses the importance of affirmative action employment and training programs developed in close co-operation with Industry.

On the other hand, if quotas for northern employment and training are adopted by the federal government, it is essential that such quotas be flexible and not static as has been the case with some northern resource development projects.

E. Training and Human Resource Development

Evidence that Industry recognizes a responsibility to northern residents for the transfer of economic and social benefits is clearly indicated in the EIS. It is also recognized that the development of the northern labour force is an inseparable component to this responsibility. However, very brief discussion of the proponent's activities in training related areas is provided in both the EIS and the Response to Deficiencies.

It is generally accepted that as the pace of hydrocarbon development activities expands and Industry enters the production stage, opportunities for training and northern labour force development will increase as will the need for Industry to respond with northern labour force training initiatives. In addition to on-the-job training

programs, some of which are designed with the needs of northern employees in mind, Industry should expand its emphasis on preemployment, and lifeskills training programs as well as the use of government sponsored formalized institutional training.

While it is recognized that the Government of the Northwest Territories through its formal apprenticeship programs, and vocational training institutions has the major role to play, the continued cooperation of Industry with the GNWT, by indicating employment requirements and through other means such as making commitments to hiring graduates of vocational training institutions is expected.

The importance of transferring skills to local community residents cannot be over stressed as education and training are keys to northern economic development. The northern employment experience in the Dome/Canmar Beaufort Sea exploration programs has shown improvements in the skill level positions occupied by Northerners. This is illustrated in Table 1.1 , where 6 Northerners (or 9 percent of total Northerners employed) occupied "skilled" regular fulltime positions in 1976 while in 1982, the appropriate figures were 65 Northerners or 29 percent of total Northerners employed. Nevertheless, it is clear that many highly skilled positions are not occupied by Northerners which could be in the future with the proper dedication of resources to training by both the Industry and government.

With regard to overcoming the employment entrance barriers facing Northerners, it has been pointed out in the EIS (5/3.1.2) that many Northerners lack the skills and education necessary to enter the labour force and further, that improvements to the educational system and increased emphasis on adult upgrading will eventually solve this problem. This line of reasoning continues by pointing to government as the party responsible. The participation of northerners in the labour force is the responsibility of both Industry and government. In recognition of its responsibility toward affirmative action, Industry

should include lifeskills training in the curricula of pre-employment training programs. Similarly, companies should encourage the education and training of prospective as well as current employees whose skill levels are in need of upgrading.

Although the employment opportunities associated with production as opposed to exploration activities lend themselves better to formal GNWT apprenticeship programs, total participation by the Beaufort Sea hydrocarbon labour force in such programs has been limited. For example, in Dome's 1982 activities, only 5 Northerners became indentured in apprenticeship programs.

Among the training programs which have had considerable northern involvement have been on-the-job training programs offered by operators at Tuk base and offshore. As shown in Table 1.6, 7 N.W.T. resident employees completed such programs in 1982.

F. Adult Vocational Training at Tuktoyaktuk

The Tuktoyaktuk pre-employment training programs provide an excellent example of cooperation between industry and government in the implementation of training programs which have achieved tangible results. Thebacha College, the territorial adult vocational training institution delivers a variety of training programs directly related-to oil industry activities which are jointly sponsored by the Department of Education, Canada Employment and Immigration Commission, Dome Petroleum, Gulf Canada and Thebacha College. During the 1981-82 academic year, 48 individuals graduated from the program offered at Dome's Tuk-Base camp.

The curriculum at Tuk Tech includes courses in seamanship and marine safety which are oriented toward individuals interested in off-shore employment. One of the more desirable attributes provided by such a program is that it enables northern residents to obtain industrial training while living in a work environment. Results for the first two complete years of instruction at Tuk-Tech are summarized in Table 1.7.

Table 1.5

Beaufort Sea Exploration

NORTHERN ROTATIONAL LABOUR FORCE PARTICIPATION

	Dome/Canmar Beaufort 1982[1]	Esso Beaufort 1982	Gulf Beaufort 1983 - 1st Qtr.[3]
Aklavik	50	7 - 11	1
Coppermine	37		4
Ft. McPherson	46	3 - 9	
Holman	16		
Inuvik	77	52-67	4 - 5
Paulatuk	6		
Sachs Harbours	20	1	
Tuktoyaktuk	70	5 - 11	30
Norman Wells		1	
Yellowknife	21		
Hay River		1	
Other NWT	16		

1. Dome Petroleum Limited, 1982 Beaufort Sea Socio-economic Review figures presented represent the number of employees hired.

2. Esso Resources Canada Limited, Maurice Fisher; figures presented represent numbers of northern residents employed for greater than 3 months.

3. Gulf CanadaResources Inc., June 13, 1983, figures represent first quarter hirings associated with exploration program start-up. Gulf officials estimate that 143 NWT and Yukon residents will be hired in 1983.

Table 1.6

Beaufort Sea Exploration

NUMBER OF DOME EMPLOYEES PARTICIPATING IN ON THE--JOB- TRAINING PROGRAMS (1982)

	Yard Crew	Completed	Drill Crew	Completed
Coppermine	4	2	5	4
Ft. McPherson	7	4	5	4
Inuvik	3	1		
Aklavik	3		1	0
Old Crow	1	–		
Tuktoyaktuk	1		1	
Yellowknife			1	1
Whitehorse			1	1
Total	19	7	14	10

Dome Petroleum Limited, 1982 Beaufort Sea Socio-economic Review

Table 1.7

Thebacha College

Tuk Tech Extension Program

DOME BASE CAMP - TUKTOYAKTUK

1980 -81	Capacity	Number of Students Graduating
Heavy Equipment Operation	12	10
Basic Offic Practices	8	7
Nautical I (#1)	12	9
Nautical I (#2)	12	12
	44	38
1981 -82		
Basic Office Practices	8	8
Carpentry	8	7
Mechanics	8	7
Welding	8	1
Food Services	10	9
Nautical I	20	8
Marine Safety	15	8
	77	48

Thebacha College Extension Program, Jan. 10, 1983

The success of Tuk-Tech has resulted in both its capacity to accept trainees and in course offerings. In order to increase the level of participation by NWT residents in the labour force it is essential that mutually beneficial preemployment training, such as those offered at Tuk-Tech, be expanded and improved upon in accordance with employment opportunities.

Another training area in need of improvement concerns the relationship between oil and gas companies and their contractors. Companies operating in the Beaufort Sea/MacKenzie Delta should work with their contractors to accept graduates of m training programs. Moreover, contractors should be required to implement training programs of their own when their activities are of sufficient length and where appropriate.

G. Concerns Respecting Labour Unions

The Government of the Northwest Territories has had a long term peripheral association with labour unions based in southern Canada. This association has from time to time been plagued with problems, the most frequent of which have been those related to employment and training opportunities.

The previous experience of the GNWT with labour unions involved in industrial activities has increased the level of concern within Government over the barriers to northern participation posed by exclusive union practices. In addition, the recent experience of unionized contractors to Esso Resources Canada at Norman Wells has served to emphasize the need for GNWT involvement in reviewing such practices. Specifically the following concerns have been identified:

a) Unions based in southern Canada typically do not maintain hiring halls in the NWT, therby placing Northerners at a disadvantage while encouraging the temporary in-migration of union members. A noteable exception is the Labourers International Union which maintains an office in Yellowknife.

b) Northern hiring and training preference initiatives of resource developers may be rendered ineffective by union membership restrictions.

c) Exclusive union work contracts may preclude the participation of sane non-union northern businesses in major construction activity associated with hydrocarbon development.

The response to deficiencies in socio-economic issues prepared by the proponents (June 30, 1983) describes some of the recent efforts of various unions operating in the NWT to improve the level of participation by NWT residents in unionized labour activities (Sec. 5.2.4.).

In recent months the labour movement has seemingly made an to co-operate with the GNWT by recognizing northern preference priorities and by establishing practices that will see those priorities for the most part put into action. This developing trend is welcomed by the GNWT as it means that the level of direct participation by Northerners will increase and that non-union NWT businesses will be allowed to bid on unionized work contracts without entering into a collective labour agreement. However, not all unions are participating in this co-operative effort. Some unions operating within the N.W.T. such as the Seafarers International Union have not indicated their support of GNWT initiatives to increase northern participation in labor unions.

Measures taken by the GNWT to date with respect to the activities of labour unions involved in hydrocarbon developments in the NWT have largely been confined to arms-length intervention. For example, labour unions have been encouraged to establish hiring halls in the North.

The possibility of the Legislative Assembly of the Northwest Territories enacting labour legislation in the near-term (next six months) has been under study. Because of provisions of the Northwest Territories Act and the Canada Labour Code the enactment of labour legislation in the N.W.T. may require negotiations with the Government of Canada. Whatever the requirement, it is certain that if labour legislation is enacted in the N.W.T its major thrust will be to provide access to oil industry employment opportunities for N.W.T. residents.

The Mackenzie Valley Pipeline Inquiry identified a number of important concerns respecting the participation of northerners in pipeline construction activities. At that time, the major unions which would have been involved (the United Association of Plumbers and Pipe Fitting Industry, International Union of Operation Engineers, International Brotherhood of Teamsters, and the Labourers International Union) indicated that unions and contractors had the ability to absorb new trainees into the pipeline construction industry. However, it was also indicated that training in pipeline skills would not afford northern residents long term employment opportunities in their own locale "instead greater opportunities for northerners were felt to be found for tradesmen in the building construction phase of pipeline development.[1]

In the recent past labour unions were not willing to commit themselves to northern participation. Evidence of this was presented by unions which would have been involved in pipeline construction, in January 1977, in a submission to the Berger Inquiry. The reasons cited for unions being unwilling to make such a commitment included:[2]

a) Unions are expecting no change in their methods of operations insofar as entry requirements and apprenticeship programs are concerned.

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[1] Berger p. 135
[2] Berger p. 136

b) It is felt that the situation differs between skilled and unskilled trades people, and therefore the unions cannot entertain the acceptance of new members until an actual count is made the various skills available.

c) Persons trained by and skilled on industrial projects are often found to be poor workers on pipeline projects.

d) The tenure of aworker on a pipeline project is seldom lengthly enough for proper training.

e) The chances of continuing employment in the pipeline construction industry are very low unless the worker is willing to move extensively to the various and ever-changing locations of construction activity.

It must be recognized that the first responsibility of unions based in southern Canada is to their membership and although some unions have accepted a responsibility with respect to a northern hire priority, this is the exception rather than the rule. The recently announced agreement between the Pipe Line Constrictors Association of Canada and four pipeline unions concerning the hiring practices of constrictors involved in the Norman Wells pipeline project underlines the importance of recognizing and accepting northern hiring and training priorities. One of the more important provisions of this agreement has been that non-unionized northern businesses are allowed to bid on contracts where unionized labour is involved.

H. Revised Labour Force Projections

A series of revised employment and materials procurement projections were developed utilizing a more realistic version of the Beaufort Sea Industrial Benefits Planning Model. As shown in Table 1.9, the revised smaller scale development scenarios assume much lower field production

rates when compared' with the EIS scenarios, and also exclude natural gas production. The 200,000 B/D revised scenarios which were prepared with the assistance of the support documentation to the model include on-shore, near-shore and offshore fields. With regard to the 16 inch pipeline scenario, only shallow water fields are assumed to be included. From the figures in Table 1.9 it is clear that there is a significant difference in the magnitude of oil production throughput. Anticipated socio-economic effects for the Beaufort Sea/MacKenzie Delta area as well as for the apporpriate transportation corridors also vary significantly.

The main objective in developing revised northern -participation forecasts is to identify the level of benefits which would accrue to residents of the Northwest Territories under smaller scale pipeline and marine scenarios which were excluded from the EIS.

Northern Labour Force Participation

The data in Tables 1.11, 1.12 and 1.13 are broken into shift and on-site personnel. As defined in the EIS, "the on-site labour force includes all personnel at the worksite whether they are actually on the job or resting. It sould not be confused with "shift personnel", which refers to total personnel employed, including on-site personnel and personnel on rest and recreation status away from the worksite." (Vol. 5, Sec. 7.1)

The model assumes that the ratio of northern shift personnel to total personnel increases from 10 percent in 1981 to approximately 29 percent in 2033[1]. As the same increasing scale is used as the basis for all scenarios, it is perhaps more relevant to focus on the total shift personnel requirement for each scenario because the figures represent what the proponents perceive as the potential or upper limit of northern participation through direct employment.

It should be recognized that the northern labour force participation estimates which are actually man-year equivalent estimates, are defined to include new residents in addition to existing N.W.T. and Yukon residents. However, by relying on this definition it is impossible to estimate the number of existing residents whole will have the opportunity for employment in the Beaufort development[1]. A comparison of the shift personnel forecasts shown in Table 1.10 associated with the 16 inch pipeline scenario with the Intermediate Marine Case shown in the EIS indicates that the required labour force for the latter is approximately 90 percent large during the latter production years when all transportation facilities are in place. Nevertheless, the revised 16 inch, 75,000 B/D scenario provides substantial opportunity for the employment of northern residents; total shift personnel requirements would increase from 5,372 in 1985 to 9,736 in 2000.

[1] The unrealistic start-up date of 1981 contained in the EIS has been retained here for purposes of comparison.

With respect to the employment categories to be filled by northerners under the small scale pipeline development scenario, a wide range of professional, administrative, trades and general labour positions would be filled. The support computer printout documentation for the three scenarios includes a detailed breakdown of job skill types. Despite the fact that the majority of positions lie within the skilled and semi-skilled category, even the smallest scale development scenario under consideration, the 16 inch Beaufort Sea - Zama, Alberta pipeline would require an estimated 1,900 shift personnel in 1985 in the following non-technical, non-administrative job categories: maintenance, janitors, cooks, helpers, welders, insulators, electricians, carpenters, machinists, crane operators, road construction crews, and general labourers. For purposes of comparison, the number of persons employed in the Western Arctic labour force, as defined by the Joint Needs Assessment Advisory Committee, was 13,080 in 1981 (the total labour force was estimated to be 20,335).

Pipeline Employment Forecasts

Pipeline manpower requirements developed by Esso Resources Canada for 16,24 and 36 inch pipeline scenarios are presented in Tables 1.14 and 1.15. As indicated, the construction labour force required for the "small scale" 16 inch pipeline scenario is less than half that required for a 24 inch pipeline when the Alberta component is included. With

respect to the pipeline operating employment requirement, the 24 inch pipeline does not offer substantially greater long-term employment benefits to the N.W.T. labour force. As shown in Table 1.15, permanent operations employment is estimated to be 160 permanent jobs for the Beaufort - Edmonton, 24 inch line versus 90 for the smaller Beaufort -Zama, 16 inch line.

Projected Northern Wage Payments

Based upon the employment forecasts for each of the scenarios and appropriate salary projections, the northern wage payment estimates shown in Table 1.13 were constructed. While wages paid to northerners are lower under the 16 inch scenario in comparison with the other two scenarios, the difference between wage payments from the 16 inch scenario and those from the marine scenario is only $25 million in 1990. It must, of course, also be recalled that the wage estimates contained in Table 1.13 exclude wages for pipeline construction as well as tanker labour.

A comparison of total pipeline operational wages paid under the 16 inch pipeline scenario with wages paid under the 42 inch, high throughput scenario, for the year 2000 reveals wage payments which are slightly less than one half as large, $365 million compared with $753 million. This illustrates the generally accepted fact that wage payments do not increase in direct proportion to oil throughput.

Table 1.8

SUMMARY OF HYDROCARBON DEVELOPMENT SCENARIOS[1]

A. EIS Development Scenarios

1. Technically Achievable Development Scenario
   1,273,033 B/D
2. Technically Achievable - 1987 42 inch pipeline Scenario
   1,286,000 B/D
3. Intermediate Development - 1987 36 inch Pipeline Scenario
   776 ,000 B/D
4. Intermediate Development - Marine Scenario
   776,003 B/D
5. Lowest Economically Feasible Development Scenario - Marine Scenario 183 ,000 B/D

B. Revised Development Scenarios

1. Lower Scale Development - 16 inch Buried Pipeline
   75 ,000 B/D
2. Intermediate Scale Development - 24 inch Elevated Pipeline
   200 ,000 B/D
3. Marine Scenario
   200,000 B/D

C. EMR/DIAND Study Scenarios

1. High Supply by Pipeline to Chicago
   1.000.000 B/D
2. High Supply'by Tanker to Philadelphia
   1,000,000 B/D
3. Medium Supply to Tokyo by Dempster Highway Pipeline
   500 ,000 B/D
4. Medium Supply by Tanker to Portland Maine
   500 ,000 B/D
5. Conservative Supply to Pipeline to Edmonton
   200,000 B/D
6. Medium Supply by Pipeline to Edmonton
   500 ,000 B/D

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1. Production rates represent maximum daily productivity each scenario's .
2. All excluding natural gas production.

TABLE 1.9

PROJECTED OIL PRODUCTION PROFILES

B/D $\times 10^3$

	EIS * Technically Achievable Marine	EIS * 42 inch Pipeline	Marine Scenario 200,000 B/D	24 inch Pipeline 200,000 B/D	16 inch Pipeline 75,000 B/I)
1986	12	0	49	49	30
87	36	12	127	127	65
83	137	108	180	180	70
89	.271	241	200	200	75
90	445	415	198	198	75
91	559	529	200	200	71
92	673	655	196	196	74
93	806	805	193	193	62
94	960	%7	183	183	75
95	1017	1028	195	195	74
96	1037	1051	192	192	73
97	1101	1118	195	195	75
98	1151	1170	198	198	65
99	1212	1228	200	200	53
2000	1273	1286	200	200	42

* Natural gas production not shown.

Table 1.10

PROJECTED TOTAL PERSONNEL REQUIREMENTS
16 INCH PIPELINE SCENARIO - 75,000 B/D

	(A) Northern Shift Personnel	(B) Total Shift Personnel	(C) A/B %	(D) Northern On site Personnel	(E) Total On-site Personnel	(F) D/E %
1%1	195	1873	10	128	1228	10
82	303	2698	11	214	1911	11
83	671	5678	12	548	4682	12
84	936	7464	12	725	5848	12
85	970	7263	13	733	5%5	13
86	522	3471	14	337	2239	14
87	682	4345	15	4-23	2685	15
88	616	3627	16	394	2323	16
89	652	3627	17	417	2323	17
90	832	4489	18	515	2771	18
91	755	3771	19	482	2403	19
92	935	4576	20	578	2819	20
93	854	3870	21	543	2465	21
94	1032	4621	22	636	2839	22
95	940	3933	23	594	2471	23
%	980	3903	25	619	2477	25
97	1019	3903	26	644	2477	26
98	1058	3903	27	668	2477	27
99	1538	3903	28	693	2477	28
2000	1137	3903	29	718	2477	29

1. Excluding pipeline labour.

Table 1.11

PROJECTED TOTAL PERSONNEL REQUIREMENTS
24 INCH PIPELINE SCENARIO - 200,000 B/D

	(A) Northern Shift Personnel	(B) Total Shift Personnel	(C) A/B %	(D) Northern On-site Personnel	(E) Total On-site Personnel	(F) D/E %
1 981	195	1873	10	128	1228	10
82	425	3822	11	336	3034	11
83	968	8263	12	833	7177	12
84	2129	1 74%	12	1774	14663	12
85	1755	13626	13	1494	11734	13
86	816	5526	14	514	3474	14
87	877	5576	15	551	3497	15
88	925	5509	16	568	3376	16
89	872	4803	17	548	3022	17
90	927	4827	18	582	3038	18
91	965	4778	19	605	3005	19
92	1031	4863	20	647	3062	20
93	1 109	5006	21	697	3157	21
94	1346	5951	22	839	3724	22
95	1194	4904	23	745	3076	23
%	1259	4954	25	786	3109	25
97	1314	4%6	26	820	3117	26
98	1366	4966	27	852	3117	27
59	1422	4982	28	887	3128	28
2000	1478	4994	29	922	31x	29

1. Excluding pipeline labour .

Table 1.12

PROJECTED TOTAL PERSONNEL REQUIREMENTS
MARINE SCENARIO - 200,000 B/D

	(A) Northern Shift Personnel	(B) Total Shift Personnel	(C) A/B %	(D) Northern On-site Personnel	(E) Total On-site Personnel	(F) D/E %
1981	195	1873	10	128	1228	10
82	259	2298	11	170	1511	11
83	397	3230	12	256	2088	12
84	856	6682	12	497	3867	12
85	713	5117	13	448	3216	13
86	821	5567	14	519	3515	14
87	912	5839	15	576	3684	15
88	932	5558	16	573	3408	16
89	877	4852	17	552	3054	17
90	932	4881	18	586	3073	18
91	964	4827	19	609	3037	19
92	1035	4912	20	650	3094	20
93	1112	5055	21	700	3189	21
94	1348	6000	23	842	3756	23
95	1196	4953	24	747	3108	24
%	1260	5007	25	788	3144	- 25
97	1315	501 9	26	822	3152	26
98	1366	501 9	27	854	3152	27
99	1421	5031	28	868	3160	28
2000	1476	5043	29	923	3168	29

1. Excluding tanker labour.

Table 1.13

PROJECTION OF WAGES PAID TO NORTHERNERS [1]
($mm 1981)

	(A)	(B)	(C)	(D)	(E)	(F)
	Marine Scenario		24" Pipeline Scenario		16" Pipeline Scenario	
	Northern Wages Paid	Total wages Paid	Northern Wages Paid	Total wages Ibid	Northern wages Paid	Total wages Paid
1981	8	76	8	76	8	76
82	11	93	10	93	11	93
83	17	131	16	125	15	117
84	34	256	34	256	23	170
85	30	209	30	211	27	190
86	35	225	34	218	22	138
87	38	230	36	216	28	168
88	38	213	38	211	26	142
89	37	189	36	186	27	142
90	40	192	39	1%3	35	174
91	41	189	41	186	32	148
92	44	193	44	190	39	177
93	48	200	47	196	36	153
94	58	237	57	234	44	180
95	52	196	51	192	40	154
96	55	198	53	195	42	154
97	57	199	56	196	44	154
98	60	199	59	196	46	154
99	63	200	61	196	47	154
2000	65	201	64	198	49	154
1981-2000	836	3882	822	3814	646	3047

1. Excluding pipeline and tanker labour.
2. Figure may not add due to rounding.

Table 1.14

PIPELINE MANPOWER FORECASTS[1]

I. CONSTRUCTION

Scenario	1	2	3
Route	Beaufort - Edmonton	Beaufort - Zama	Beaufort - Edmonton
Pipeline size, (Inch.)	36	16	24
Peak Throughput, k BOPD	1 ,000	75	200
Construction Req' ts (Man Year Equivalents)			
Year 1	1500	200	760
2	4170	1400	2600
3	9200	1600	5400
4	7650	1300	4240

1 Esso Resources Canada Limited, Production Department, Feb. 11, 1%3
2. Above manpower requirements are the full year equivalent for construction during each year. The main work force, as outlined in the E. I. S., will be required during winter pipeline construction.
3. Winter and summer construction periods are 6 months each.

Table 1.15

PIPELINE MANPOWER FORECASTS

(N of 60°)

II. OPERATION

Scenario		2	2
Operating Req'ts			
Year 1	170	60	95
5	200	90	160
10	300	90	160
15	300	90	160
20	300	90	160

1) Field or District Offices proposed for Inuvik, Norman Wells, and Ft. Simpson. Personnel requirements include Superintendent, pilots, flight engineers, clerical/secretarial, maintenance labourers and foremen, operators, welders, store keepers and technicians.

2) Administrative personnel located at the Northern Region Headquarters would include a manager, public relations supervisors, engineers, training coordinator and clerical staff.

SECTION 2 BUSINESS DEVELOPMENT ISSUES

A. GNWT Interests regarding Local Business Participation

In assessing the desirability of resource development projects for residents of the Northwest Territories, one of the principles relied upon by the Government of the Northwest Territories is that opportunities for jobs training, and business development should be maximized to ensure economic benefits As suggested in the EIS. in order for these opportunities to be maximized, a number of concerns affecting the level of northern business participation must be addressed by both Industry and the G.N.W.T. Concerns related to northern business development including business community liaison procurement policies and business enterprise development should be addressed.

B. Action Plans and Business Development

Many issues related to increasing northern business participation in Beaufort Sea development can be successfully addressed through the use of action plans. Although many of the issues identified in the following have previously been dealt with in socio economic action plans associated with either Beaufort Sea exploration activities or the Norman Wells oilfield expansion. it is essential for the meaningful development of the northern business community that serious efforts be made by the proponents to fulfill the conditions contained in action plans . Among the issues related to business development which should be addressed by the proponents in future action plans are that:

a) opportunities for NWT based firms to participate in hydrocarbon development activities should be maximized;

b) the Proponents Policies respecting the procurement of goods and services from NWT businesses should, at minimum. provide that preference be given to local suppliers where price, delivery capability, and quality are reasonably competitive;

c) northern businesses must be informed of the proponents' requirements for goods and services far enough in advance to allow firms to plan their participation;

d) residents of northern communities must be provided information on the needs of Industry and the opportunities for new business ventures;

e) where practical, contracts should be subdivided into packages which are more compatible with the capabilities of northern businesses;

f) northern businesses should be assisted in understanding the bidding process as well as the basis for evaluating bids; and

g) in awarding service and materials supply contracts to northern firms, proponents should consider the employment effects of specific contracts.

h) resource developers' service procurement policies should include a preference for northern commercial air carriers as opposed to the establishment of air transportation facilities owned and operated by the proponents.

The above points related to the development of the northern business community will be incorporated within socio-economic monitoring programs which are implemented by government. Industry should clearly describe the initiatives which will be relied upon in addressing concerns respecting the level of participation of northern businesses.

c. Proponents' Business Development Policies

The previous policies of Dome, Esso and Gulf respecting the promotion of northern business which were developed during the course of Beaufort Sea exploration activities undertaken to date indicate the general thrust of the proponents' policies in this area. Although it is evident from statistics on northern business expenditures provided by the proponents and from Departmental sources that significant growth in the capabilities of northern businesses in communities such as Inuvik and Tuktoyaktuk has occurred since 1976, there is concer n that the full intention of the policies aimed at maximizing northern business participation will not be fulfilled due to a variety of reasons. These include problems on the supply side, such as inadequate financial resources for local. businesses, and problems on the demand side, such as inadequate lead times in tendering contracts.

In examining the umbrella policies of Dome, Esso and Gulf respecting northern business development, it is apparent that their policies reflect an "affirmative action" approach to relations with the northern business community. Of course, the policies used by the companies in past exploration activities, however significant, can only be used as an indication of Industry's furture commitment to long term growth of the business community The following policy statements are quoted from 1982 action plans:

> "Dome's policy regarding northern business development is to promote the development of northern business by maximizing opportunities to establish northern businesses on a competitive basis by encouraging growth of existing businesses and by stimulating new business enterprises where opportunities exist".
>
> "Esso is committed to carrying out the exploration program in a way that provides northern businesses with significant business opportunities.
>
> Esso's policies and procedures, as they pertain to northern business and labour participation in the project has been, and will continue to be an important consideration in evaluating their bids and in their selection.
>
> Esso will not compete for or overload local businesses to the detriment of local residents".
>
> "Gulf's principles and practices are aimed at providing the oppportunity for local businesses of proven capability to supply Gulf and its contractors with needed goods and services; to help local businesses enhance their experience and existing capabilities; to contribute where appropriate, to the diversification of existing local businesses or to the establishment of new businesses where goods and services are not available locally to supply the company's needs; and to ensure that company requirements do not unduly stress the ability of local businesses to provide good and services to local residents.
>
> Consistent with its corporate purchasing policy and its Local Affairs principles, Gulf will undertake its procurement activities in a manner which ensures that northern businesses have fair and full access to contract opportunities. In awarding contracts, the company will give first consideration to qualified local businesses from the immediate area; then to other businesses in the Yukon and Northwest Territories; then to the rest of Canada; providing the practice remains cost effective and results in acceptable quality".

D. Northern Business Opportunities from Air Transportation Services

The GNWT has opposed the issuing of certain commercial classes of licence to resource companies who have sought to establish commercial air services in competition with local businesses. This was the case in intervention before the CTC concerning applications by Dome Petroleum Limited and PanArctic Oils Ltd. to establish the air carrier subsidiaries Resource Air Inc., and Rigel Airways Ltd. respectively.[1] In case of Resource Air Inc., the GNWT opposed the issuance of a commercial licence as it would diminish the effectiveness and economic viability of the existing air transportation system, and similarly the growth of the northern business community.

E. Spreading Economic Benefits through Business Expenditures

A review of the business expenditures of the principal exploration companies which were active in the Beaufort area since 1976 indicates a history of increased utilization of northern businesses as well as a spreading of benefits through the use of a greater number of businesses. Recent northern business goods and service procurement statistics, summarized in Tables 2.1 and 2.2 indicate the commitments of Dome Petroleum and Esso Resources Canada respectively to N.W.T. businesses.

As shown in Table 2.1, Dome's total N.W.T. business expenditures grew at a rapid rate from 1977 to 1981, even when measured in constant 1977 dollars. However, the 1982 season witnessed a downturn in such expenditures which was apparently due to a decline in material and service requirements for drilling needs resulting from the completion of some construction projects.

Perhaps more importantly, in terms of the spreading of benefits among northern businesses, are the statistics on the number of businesses in various N.W.T. communities which supplied Dome's procurement needs.

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1. Canadian Transport Commission, Docket No. 6151, February 3, 1983, and Docket No. 6224, March 4, 1983.

Table 2.1

Dome/Canmar Northern Business Expenditures
1977 - 1982

COMMUNITY (NUT)	1977 EXPENDITURES ($000)	1977 NO. OF BUSINESSES	1978 EXPENDITURES ($000)	1978 NO. OF BUSINESSES	1979 EXPENDITURES ($000)	1979 NO. OF BUSINESSES	1980 EXPENDITURES ($000)	1980 NO. OF BUSINESSES	1981 EXPENDITURES ($000)	1981 NO. OF BUSINESSES	1982 EXPENDITURES ($000)	1982 NO. OF BUSINESSES
Aklavik	30	3	53	2	157	2	351	2	38	3	98	6
Ft. MacPherson					40	1	99	1	148	2	156	3
Hay River	340	2	375	4	565	12	776	8	3,555	23	3,736	17
Inuvik	800	48	1,312	53	3,252	68	6,100	71	10,849	90	8,893	92
Nonnan Wells										1	3	3
Tuktoyaktuk	370	23	1,364	25	2,204	26	3,617	27	7,485	38	6,065	39
Yellowknife	750	2	1,992	4	2,116	16	570	12	1,976	12	530	21
Beaufort Coast Communities (Sachs, Holman, Paulatuk, Coppermine)			17	3	13	7	16	9	65	9	389	12
Baffin Region Communities									39	4	85	18
Other					3	3	1	2	84	2	37	1
Total NWT	2,290	77	5,113	91	8,351	135	11,530	132	24,240	185	19,992	212
Total NUT ($1977)[4]	2,290		4,697		7,026		8,806		16,459		12,251	
Yukon							829	6	1,817	9	2,467	19
Northern Basal Branches of Southern Companies	8,310	7	6,826	8	8,412	9	10,336	7	24,927	10	24,661	14
Total	10,600	83	11,939	99	16,763	144	22,695	145	50,984	204	45,635	245
Total ($1977)[4]	10,600		10,969		14,104		17,334		34,617		27,%5	

1. Dome Petroleum Ltd., Beaufort Sea Exploration Program Review - 1982
2. Dome Petroleum Ltd., Northern Bulleting, Jan. 1983
3. Expenditure figures may not add due to rounding
4. Extimates based on Consumer Price Index for Canada, Statistics Canada Catalogue 61-001.

From 1977 to1982 this figure increased from 77 N.W. T. businesses to 212. Regarding concerns over the concentration of business expenditures in the hands of a few select businesses, the GNWT commissioned study by Outcrop which analyzed the economic impacts of Dome/Canmar operations found this not to be the case.[1]

> "In 1980 Canmar purchased $12.3 million worth of materials and services from 132 NWT Businesses. Of these 132 businesses, 22 accounted for a total of $11 million or 89% of the total purchases of goods and services. Average 1980 purchases from these 22 companies was $500,000 compared with an overall average purchase of $93,000. Of these 22 major suppliers, 13 started within the past five years, and most of the others have undergone some form of expansion in the past five years. Of the remaining 110 companies, providing $1.3 million of goods and services to Canmar, 40 had sales to Canmar of less than $1,003 in 1980."

Analysis of business expenditures associated with Esso's Beaufort Sea exploration program shows a somewhat different record when compared with the much more accelerated program of Dome Petroleum. Esso purchased goods and services for use in the Beaufort Program from 135 northern companies amounting to $7.1 million during the 1982 season.[2]

As illustrated in Table 2.2, Esso's northern expenditures were highest in 1978 when measured in real terms. Nevertheless, the increase in expenditures for northern businesses from 1980 to 1982 is encouraging.

It is clear from the two tables that despite differences in accounting for northern business expenditures between the two firms, Dome's northern business expenditures have exceeded those of Esso. This can be attributed directly to the magnitude of each firm's exploration program.

F. Northern Light Scale Manufactureng and Assembly

Table 2.2

Esso Resources Canada
Beaufort Sea Exploration Program
Northern Business Expenditures

($000)

	1978	1979	1980	1981	1982[2]
Services	4,500	3,900	2,400	**2,833**	
Purchases	2,400	**1,702**	1,700	2,900	
Total	6,900	5,600	4,103	5,700	7,100
Total ($1977)[4]	6,340	4,711	3,131	3,870	4,350

1. Esso Resources Canada Limited, Mackenzie Delta - Beaufort Sea Explorations Agreements Canadian Benefits Annual Report - 1982, April, 1 983.
2. Local Services 1981 total includes $1.8 million from an NTCL total of $5.3 million.
3. Figures include norther based branches of souther companies.
4. Constant 1977 dollar estimates based on Consumer Price Index for Canada, Statistics Canada Catalogue 61 -001 .

industry include sandbags, parkas, and coveralls. Local manufacturing projects, some of which were initiated by the Department of Economic Development and Tourism, provide employment and other economic benefits to economically disadvantaged communities. Although some such enterprises have not proven to be economically viable, future larger scale hydrocarbon development activities should be viewed as an opportunity to foster the creation of new light scale assembly and manufacturing ventures. Examples of opportunities in this area are likely to be found in the oil field service sector including drilling mud supply and production facility or possibly in the area of garment manufacture ng.

In addition to showing a preference for the purchase of goods and services from NWT businesses, industry should provide evidence of its commitment to regional economic development by purchasing from existing local light scale manufacturers and perhaps more importantly, by working with the GNWT in identifying economically viable projects that will provide jobs over the long term.

G. Venture Capital Concerns

Among the more frequently cited barriers to northern business participation is adequate access to capital. Many local businesses are simply unable to raise the additional capital necessary to expand" and provide the goods and services required by expanding hydrocarbon activities. Many northern businesses also face operating constraints due to their location which are compounded by a lack of signing authority among local banks.

The ability of financial assistance programs administered by the GNWT including the Small Business Loans and Guarantees, Eskimo Loan Fund, Assistance to Industry and, Special ARDA programs, to fill these needs is also limited.

As it is unrealistic to expect the level of funds available through financial assistance programs to grow at a rate equal to the level of

opportunities available from hydrocarbon development, industry must continue to cooperate with the GNWT and local businesses in promoting alternative to debt financing, such as the establishment of a venture capital fund.

H. Innovative Business Structures

Local businesses faced with a lack of managerial skill, expertise in specialize higher technology areas, and access to financial resources, all of which are required to effectively become involved in providing goods and services to the hydrocarbon industry, have sought to overcome these constraints by entering into joint venture arrangements with southern firms. The Department of Economic Development and Tourism has had a positive outlook on the formation of north - south joint ventures as one means of facilitating the gradual transfer of managerial and technical skills to northern business people. It is also recognized that other advantages are provided by relying on organizational structures such as the joint venture. The leverage and level of participation provided northern businesses by such an approach is particularly important for high capital cost operations typical of those associated with the oil and gas industry.

Industry must play a much more active role in encouraging the formation of joint ventures. Through close communication with the local business community and officials in the Department of Economic Development and Tourism, local businesses can play an important role in the more technically advanced and capital intensive opportunities such as oilfield servicing and telecommunications.

To some extent, innovative organizational structures and business arrangements have already been employed as a result of industry/government co-operation in attempting to increase the level of local participation. For example, in Tuktoyaktuk, southern managerial expertise and capital have combined with a local business in forming a business which provides services to both the oil companies and the community. As another example, a native development corporation has entered into a venture whereby equipment is leased on a relatively long-term basis to one of the companies active in the Beaufort Sea.

The formation of Decho Drilling Ltd. and its joint venture involvement with Esso Resources in a drilling rig and a service rig provides another good example of an arrangement which will provide a northern business with direct involvement in oil development and its associated training benefits.

In addition to the formation of joint venture enterprises, other approaches have been employed with a view to increasing northern participation. Business arrangements such as partnerships and franchises represent examples which industry and government have promoted as means of increasing the level of northern participation. The major point which should be emphasized in this regard is that although co-operation between industry and government is necessary, industry must continue to play an active role in identifying opportunities and in conveying them to the local business community.

I. Phases of Development and Business Opportunities

As Industry moves from the exploration phase through to the production phase, it is clear that the nature of many opportunities available to northern firms will change. In order to ensure maximum participation of NWT resident businesses in all levels of business activity, regardless of the level of technological sophistication, serious efforts must be made by Industry, in co-operation with the GNWT, to safeguard the preference shown northern businesses.

It is apparent that under all phases of development, many of the business opportunities associated with exploration such as air transportation and construction, will continue to provide work for northern businesses. However, as industry moves toward the production phase and transpiration systems are put in place, a number of new concerns will face the northern business community. Industry's role in this regard must be to assist the local business community in obtaining the long-term business opportunities which will increase the stability

of the regional economy. In addition to informing northern businesses of the opportunities available from the various phases of production, Industry in cooperation with government and northern businesses must develop strategies for increasing local business participation in the latter production oriented stages of development.

J. Business Opportunities from Pipeline and Marine Scenarios

Although it is generally believed that the level of expenditures made by resource developers through local businesses is directly correlated with the capital cost of resource development projects, in the case of Beaufort Sea hydrocarbon development, given equal capital costs of marine or pipeline transportation scenarios, expenditures to local businesses will likely be greater if a pipeline is constructed. The major reasons for this are as follows:

a) northern businesses as well as the northern labour force are currently participating in the Norman Wells oilfield expansion and pipeline development and therefore, will be in a favorable position to provide goods and services for a Beaufort Sea pipeline;

b) one of the major competitive advantages available to northern businesses is their proximity to the job site; in the case of pipeline development, activity would occur along the entire pipeline corridor whereas under a marine transportation scenario it would centre in the Beaufort/Delta area; and

c) under a marine transportation scenario icebreaking oil tankers and oilfield processing equipment would be manufactured and assembled outside the NWT whereas under a pipeline scenario, construction of the pipeline would provide a significant level of procurement from NWT businesses.

K. Material Procurement Projections

Eased on the three revised smaller scale development scenarios described in Section 1, annual material procurement projections have been developed. These estimates are summarized in Table 2.3 and shown in greater detail in the support computer print-out support documentation. It is evident from the table that the 24 inch pipeline scenario offers larger material procurement benefits for northern businesses followed by the marine scenario and the 16 inch pipeline.

It is estimated that cumulative northern material procurements for the 16 inch scenario over the 20 year period will amount to $1,474 million. Under the 42 inch scenario such procurements would sum to $3,011 million. This is illustrated in Table 2.4.

Among the major categories of materials to be purchased by the oil industry would be sand, gravel, drilling mud, barite, concrete and pre-fabricated buildings. However, the level of detail regarding commodity classifications which the model is capable of accurately forecasting is limited by sourcing information. A comparison of the 16 inch pipeline scenario with the 24 inch and the marine scenarios indicates that greater benefits would accrue to northern businesses under the latter two scenarios. Both of these development scenarios would be classified as small scale development scenarios when compared with the larger scale developments presented in the EIS.

Table 2.3

CANADIAN INDUSTRIAL BENEFITS
MATERIAL REQUIREMENT PROJECTIONS
($mm 1981)

	Marine Scenario		24" Pipeline Scenario		16" Pipeline Scenario	
	North	Total	North	Total	North	Total
1981	28	715	33	772	20	628
82	48	500	135	985	41	398
83	80	902	240	.2069	76	886
84	102	907	172	2334	79	882
85	124	301 2	142	3918	99	2795
86	124	3195	12'7	2865	61	280
87	125	2832	135	21 98	58	269
83	112	853	122	515	59	241
89	119	490	129	508	63	253
90	1(Y7	427	118	442	83	328
91	118	460	130	476	83	319
92	121	457	133	473	92	374
93	124	448	138	467	79	288
94	125	1777	139	1904	82	345
95	108	370	121	388	73	243
96	190	410	135	428	78	- 254
97	127	428	141	448	81	260
98	131	434	146	454	85	266
99	137	440	152	463	89	.271
2000	150	480	166	501	93	276
1981 - 2000	2,300	19,537	2,754	22,608	1,474	9,856

Table 2.4

NORTHERN MATERIAL REQUIREMENT PROJECTIONS

($mm 1981)

	EIS Technically Achievable Marine	EIS 42 Inch Pipeline	Marine Scenario (200,000 B/D)	24 Inch Pipeline	16 Inch Pipeline
1981	11	10	28	33	20
1985	51	108	124	142	99
1990	210	189	107	118	83
1995	187	236	108	121	73
2000	186	194	150	166	93
1981 -2000	2,852	3,011	2,300	2,754	1,474

SECTION 3 - TOURISM INDUSTRY ISSUES

A. Concerns related to Tourism and Park Development

A range of effects resulting from Beaufort Sea Hydrocarbon development are foreseen by GNWT tourism and parks industry planners. While some of the efforts of hydrocarbon development will be beneficial, such as increased participation in tourism industry activities, others such as those resulting from land use conflicts will likely be detrimental. Tourism activities in the Inuvik Region, and particularly along the Dempster Highway corridor, have increased dramatically since the opening of the highway in the late 1970's. In assessing the effects on this industry it is important to note the vast potential for tourism resource development in the Inuvik Region and the importance which transportation access and costs play in developing such resources.

B. Potential Development Opportunities

Industrial activity such as oil exploration and production, especially in remote and unusual areas, can be of interest to tourists and thereby serve as an exploitable tourism resource. Oil exploration sites could be the focus of short tours that are offshoots of more generalized tours . In addition there are special interest groups that would be interested in visiting exploration sites for more intensive professional purposes and for longer periods of time. Both types of tours would require the active co-operation of the proponents. Such tours would not necessarily be profitable to the oil companies, although they would be valuable from a public relations perspective.

Throughout the various phases of hydrocarbon development new infrastructure will be created which can be beneficial to the tourism industry. For example, msny additions to existing infrastructure such as hotels, restaurants and transportation facilities can be shared equally by tourists. This is swell established concept by which much of the Northwest Territories tourism industry survives as tourist volumes alone can seldom support the quality and quantity of facilities

demanded by visitors to the North. Where practicable, new facilities which are constructed for oil field development related purposes should be designed with the longer term needs of tourists in mind. The design and construction of hotels provides an excellent example of this.

Skills obtained by Beaufort Sea community residents as well as the influx of skilled labour from southern Canada will be beneficial, in the long term, to tourism industry development. It is likely that inter-industry skills transfers will take place.

Oil industry workers at exploration sites will have need for rest and recreation periods. There are several existing sport fishing lodges and outfitters that could serve this purpose, and the existence of workers as customers could stimulate the creation of new lodge and outfitter businesses. Workers from existing exploration camps have been frequent customers of the fishing camps located southeast of Tuktoyaktuk . Within the sustainable limits of local resources, particularly fisheries resources, the proponents should be encouraged to make use of local outdoor recreation activities.

The opportunities outlined above with respect to additional and improved tourism facilities in communities, increased entrepreneurial. positions and other skills , and the use of facilities by oil industry workers all are consistent with the recently approved Government of the Northwest Territories tourism strategy of Community Eased Tourism. The strategy emphasizes the concentration of tourists and their activities in and around communities, and provides strongly for community involvement, decision making and benefits in the tourism industry.

c. Potentially Adverse Effects

One of the basic and most appealing resources of the tourism industry is the lifestyles and culture of the people living in the tourism destination area. A rapid influx of workers into communities with

largely traditional cultures may result in disturbance which could be detrimental from a tourism development point of view. This effect can be mitigated by taking precautions such as housing workers in separate work camps, orienting employees as to cultural attributes and developing rules which minimize incompatible interaction between workers and residents. A review of the situation of Tuktoyaktuk indicates that oil exploration companies have implemented many of the precautionary measures in the operation of exploration base camps. Local inflationary effects resulting from resource development slso affect tourists as well as suppliers of tourism services. For example, tour operators will find their inputs to be more costly and labour if available, will demand higher wages. In addition to inflationary effects, facilities used by both the tourism and the oil and gas industries, such as hotels, will likely be in short supply during periods of rapid growth. Although it is difficult to develop mitigate measures to shield local residents and tourism based businesses from the effects of local inflation, the role of the proponents in this regard should be one of consulting with the local tourism associations in developing measures to minimize impacts.

The Western Arctic Visitors Association (WAVA) is a zone travel association which was created to promote the interests of the industry in the Inuvik Region. This association which is partially funded by the GNWT should serve as a focal point for increased liaison between the oil industry and tourism industry in the region.

The development of successful parks programs by the Government of the Northwest Territories depends strongly upon the existence of natural and unspoiled landscapes. To the extent that hydrocarbon development and production activities result in adverse effects on land and water resources future park development options will become increasingly limited, particularly in the vicinity of Mackenzie Delta communities. In addition, population increases in Inuvik will exert pressures on park facilities in the vicinity which will necessitate additions to facilities in order to maintain the existing quality of life in the region.

SECTION 4- ANALYSIS OF GOVERNMENT REVENUES

Analysis of Government Revenues From the Beaufort Sea Mackenzie Delta Hydrocarbon Development

The Northwest Territories is known to possess both significant and valuable quantities of renewable and non-renewable resources. The recovery of such resources has long been a major factor contributing to the development of the Canadian economy and in specific instances is viewed as being essential, for Canada's future economic security and well being. The residents of the Northwest Territories are very familiar with the losses and gains realized from resource development activities occuring within their boundaries. As a result, the Government of the Northwest Territories has chosen a principal role in managing the development of its indigenous resources and is of the opinion that, if future commercial resource initiatives are to be pursued, it is mandatory that the residents of the Northwest Territories benefit.

In order that the Government of the Northwest Territories may effectively manage the socio-economic impacts caused by resource development, very substantial sources of revenue are required. At present, there are no arrangements available whereby the Government of the Northwest Territories receives and identifiable share of federal royalties generated by the development of non-renewable resources in the Northwest Territories. As prescribed under Sections 13(a) of the Northwest Territories Act, the jurisdictional authority of Government of the Northwest Territories regarding direct taxation is restricted. In turn, the revenue benefits earned by the Government of the Northwest Territories directly from resource projects, such as that proposed for the Beaufort Sea and MacKenzie Delta, are limited to only property taxes and an allocated amount of corporate income taxes, the end result being large inequities in revenue distribution.

In the Environmental Impact Statement prepared for the Beaufort Sea - Mackenzie Delta hydrocarbon development, the proponents have attemPted to describe the resulting benefits for Canada and the Northwest Territories. On the basis of this information and further research, the Government of the Northwest Territories has developed cash-flow simulation models of the

proposed development. Given the hypothetical nature of the development and associated cost information, the models are capable of accurately projecting estimates of potential revenue for industry, the Federal Government and the Government of the Northwest Territories, under given development scenarios. The concerns of the Government of the Northwest Territories are addressed in part through an analysis of revenue distribution from the Beaufort Sea - Mackenzie Delta Hydrocarbon development.

For the purpose of this submission, both marine and pipeline transportation modes are considered under two distinct production profiles. The 750,020 bbl/day production profile is very similar to that presented in the Environmental Impact Statement, while the 200,000 bbl/day profile is included for comparison. The time period considered for these scenarios is twenty-nine years, 1982 to 2010. Also, a 75,030 bbl/day sixteen inch pipeline scenario is included in this analysis to examine the distribution of government revenues from a "small-scale" pipeline project. The project life for this scenario is assumed to be 20 years, 1982 to 2010. The transportation systems constructed in the models are based on technical and cost information specific to the Beaufort hydrocarbon development concept. The production and transportation of natural gas is not, however, considered in any scenario.

The models use expenditure and financial data derived from the Beaufort Sea Planning Model, a report to the federal Departments of Energy, Mines and Resources and Indian and Northern Affairs - Beaufort Sea Oil Transportation Alternatives, as well as supplementary data obtained from industry and consultants . The endogenous variables of the models are accounting in nature and determine the potential revenues that would accrue to the petroleum producer and transporter, the Federal Government and the Government of the Northwest Territories over the given life of the development. In addition to corporate income taxes, other tax measures considered in the model are property taxes and the petroleum and gas revenue tax. The federal basic royalty and the progressive incremental royalty are also incorporated.

One component of the revenue distribution models are the estimation of Petroleum Incentive Program (PIP) payments made by the Federal Government to inudstry. In calculating these payments, it is assumed that firms are eligible for the maximum amounts allowable under current legislation: 20% for eligible development expenditures and 80% for exploration expenditures. Since actual eligibility will depend upon the control status and canadian ownership rating of the individual firms, the model may overestimate the federal government's PIP liability.

In calculating the net revenues to the petroleum producer, it is assumed that they would be paying tariffs to the marine or pipeline facilities in accordance with a variance on current practises of utility regulation. Tariffs are first calculated using conventional rate base, rate of return and cost of service calculations. Under these conventional calculations, it was found that tariffs in the first two to five years exceeded the landed price of oil in eastern Canada. This phenomenon is typical for large scale transportation projects and "front-end loading" of tariffs has been often criticized as a by-product of current regulatory arrangements. Although this front-end loading has not been a critical problem in the past, recent literature indicates that it could hinder the economic development of certain resources – such as the Beaufort Sea - Mackenzie Delta hydrocarbon resources. For this analysis, therefore, a process of "progressive tariff levelization" has been adopted in the tariff calculation. This process generates an equivalent rate of return for the project as the conventional process, with the exception that the tariff rises in direct proportion to nominal increases in the value of oil.

For reasons of corporate income taxation, the model treats the petroleum transporters on a stand alone basis, while the producers are assumed to have parent company associations. Corporate income tax revenue is allocated to the Northwest Territories utilizing existing tax regulations and assuming that all non-federal corporate income taxes from the oil producers are

awarded to the Northwest Territories. Due to the large number of uncertainties associated with the corporate status of firms active in the proposed development, this analysis may overestimate those revenues earned by the Government of the Northwest Territories. All other assumptions regarding oil prices, financial arrangement and existing tariffs are conventional or conservative estimates. These latter variables do not, however, disrupt the model's ability to provide accurate estimates of relative distribution in revenue flows. The results of this analysis are as follows.

Over the assumed life of the development, the Northwest Territories could earn from $179 million to $569 million in property taxes.

Property Taxes
(million of 1983 dollars)

Scenario 1 (16" Pipeline 75,000 bbl/day)	Scenario 2 (Marine 200 ,003 bbl/day)	Scenario 3 (24" Pipeline 200,000 bbl/day)	Scenario 4 (Marine 750 ,000 bbl/day)	Scenario 5 (36" Pipeline 750033 bbl/ day)
179	263	427	350	569

Under the given assumption that all off-shore facilities are not taxes, the pipeline scenarios provide the most revenue.

In terms of corporate income taxes, the Government of the Northwest Territories could receive up to $4.0 billion from the 750,000 bbl/day marine scenario or $3.9 billion from the 36" pipeline scenario. This compares with corporate tax revenues of approximately $14.9 billion (36" pipeline) and $15.8 billion (750,000 bbl/day marine) tobe received by the Federal Government.

Corporate Income Taxes
(millions of 1983 dollars)

Scenario 1 (16" Pipeline 75,000 bbl/day)	Scenario 2 (Marine 200,000 bbl/day)	Scenario 3 (24" Pipeline 200,000 bbl/day)	Scenario 4 (Marine 750,000 bbl/day)	Scenario 5 (36" Pipeline 750,000 bbl/day)
GNWT Revenue				
59	233	255	4,084	3,997
Federal Revenue				
355	1,148	1,720	15,845	14,961

Based on the given assumptions regarding income tax allocation, the Government of the Northwest Territories could ordinarily receive more revenue from pipeline rather than marine transportation systems. As with this analysis, the magnitude of allocated corporate taxes is easily influenced by the transportation tariff established for each respective transportation mode and the production through-put.

Additionally, the Government of Canada would receive basic and progressive incremental royalty payments ranging from $923 million under a 75,000 bbl/day production profile to $25.5 billion with 750,000 bbl/day production"

Royalties and PGRT
(millions of 1983 dollars)

Scenario 1 (16" Pipeline 75,000 bbl/day)	Scenario 2 (Marine 200,000 bbl/day)	Scenario 3 (24" Pipeline 200,000 bbl/day)	Scenario 4 (Marine 750,000 bbl/day)	Scenario 5 (36" Pipeline bbl/day)
Basic Royalty				
825	4,095	3,303	13,248	13, 080
PIR				
71	577	0	12,230	11,843
PGRT				
_ 525	2,940	1,950	12,887	12,656

No proportion of these royalty revenues are allocated to the Government of the Northwest Territories. Considerable revenue will also flow to the Federal Government from the petroleum gas revenue tax and would amount to an estimated $525 million under the 75,000 bbl/day production profile up to $12.8 billion under the 750,030 bbl/day marine scenario. The proportion of federal revenue generated through royalty payments and revenue taxes under various development schemes is also influenced largely by the tariff established for each transportation system.

It is possible that over the development period, some oil producers could generate negative taxes allocable to the Government of Canada, the Government of the Northwest Territories and other jurisdictions. As too many unknowns exist regarding the structure of corporations potentially active in the Beaufort, these negative government cash-flow are not considered in this analysis. Payments made by the Federal Government under the Petroleum Incentives Program are more easily identifed and could amount to $854 million, $4.61 billion or $6.76 billion under the 75,000 bbl/day, 200,000 bbl/day and 750,000 bbl/day production profiles, respectively.

Petroleum Incentive Payments
(million of 1983 dollars)

	Scenario 1 (16" Pipeline 75,000 bbl/day)	Scenario 2 (Marine 200,000 bbl/day)	Scenario 3 (24" Pipeline 200,000 bbl/day)	Scenario 4 (Marine 750,000 bbl/day)	Scenario 5 (36" Pipeline 750,030 bbl/day)
PIP 85A	4,544	4,544	6,649	6,649	

The significance of the current situation regarding the distribution of government revenues from resource development occuring in the Northwest Territories, is most evident from total revenue projections. Under the five scenarios considered, the Government of Canada would receive revenues that range from $1.8 billion to $53.4 billion, or an average annual income of $112 million to $2.111 billion.

Total Revenue
(million of 1983 dollars)

Scenario 1 (16" Pipeline 75,000 bbl/day)	Scenario 2 (Marine 200,000 bbl/day)	Scenario 3 (24" Pipeline 200,000 bbl/day)	Scenario 4 (Marine 750,000 bbl/day)	Scenario 5 (36" Pipeline 750,000 bbl/day)
GNWT Revenue				
238	496	682	4,347	4,653
Federal Revenue				
1,833	8,749	6,974	53,327	53,484

This compares to a range of $238 million to $4.6 billion that the Government of the Northwest Territories could receive, or approximately $14.8 million to $184 million per annum. In comparison, the Government of Canada will receive revenues equal to, on average, almost twelve times that of the Government of the Northwest Territories over the development period.

Distribution of Governmen

Mackenzie Delta

(millions

Year	16 Inch Pipeline					
	Property Tax	Corporate Income Tax		Property Tax	Corporate Inco	
		GNWT	Federal		GNWT	Fed
1982	.00	.00	.00	.00	.00	
1983	.00	.00	.00	.95	.00	
1984	.00	.00	.00	2.99	.00	
1985	.00	.00	.00	4.11	.00	
1986	.61	.00	.00	5.02	.00	
1987	.57	.22	1.41	6.66	.00	
1988	.52	2.99	18.67	7.45	.00	
1989	.49	4.22	26.29	7.92	.00	
1990	.47	4.85	30.25	9.30	.00	
1991	.43	5.11	31.86	10.77	.00	
1992	.40	5.13	31.98	12.11	.00	
1993	.38	5.00	31.17	13.33	.00	
1994	.35	4.79	29.9%	14.48	.00	
1995	.33	4.51	28.12	14.48	.00	
1996	.31	4.21	26.28	13.35	.00	
1997	.28	3.91	24.39	12.09	.54	1
1998	.26	3.61	22.51	10.95	1.19	4
1999	.25	3.32	20.68	9.92	1.81	6
2000	.23	3.03	18.93	8.98	.00	
2001	.21	.00	.00	8.13	.00	
Total	5.98	54.97	342.51	173.07	3.54	12

Distribution of Government Revenue From the Beaufort Sea -

Mackenzie Delta Hydrocarbon Development

(millions of 1983 dollars)

Year	Marl ne - 4 Tankers			200,000 bbl/day Production							Complete Scenario	
	Property Tax	Corporate Income Tax		Property Tax	Corporate Income Tax		PGRT	Basic Royalty	PIR	PIP	Total GNWT Revenue	Total Federa Revenue
		GNWT	Federal		GNWT	Federal						
1982	0.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	0.00	0.00
1583	0.00	.00	.00	3.80	.00	.00	.00	.00	.00	247.38	3.8	0.00
1904	0.00	.00	.00	11.97	.00	.00	.00	.00	.00	378.82	11.97	0.00
1985	0.00	.00	.00	16.45	.00	.00	.00	.00	.00	692.02	16.45	0.00
1906	0.00	2.45	17.68	16.16	.00	.00	30.55	23.94	.00	399.55	18.61	72.17
1981	0.00	.00	.00	15.58	.00	.00	92.59	60.60	.00	856.34	15.58	153.19
1'988	0.00	.00	.00	16.23	.00	.00	113.00	82.46	,.00	221.62	16.23	195.46
1989	0.00	.00	.00	16.11	.00	.00	130.75	181 .82	.00	184.49	16.11	322.57
19ZKJ	0.00	.00	.00	14.83	.00	.00	124.42	179.51	.00	65.94	14.83	304.33
1991	0.00	.00	.00	13.43	.00	.00	126.24	184.43	.00	44.93	13.43	310.67
1992	0.00	2.42	17.47	12.16	.00	.00	122.23	181.52	.00	44.94	14.58	303.75
1993	0 . 0 0	5.07	36.52	11.01	.00	.00	123.72	183.16	20.73	44.93	16.08	345.08
1994	0.00	5.57	40.15	10.01 .	.00	.00	115.45	176.76	.00	668.75	15.58	328.73
1995	0.00	5.82	4 1 . 9 4	9.03	.00	.00	112.09	190.36	.00	44.94	14.05	342.60
1996	0.00	5.92	42.66	8,18	.00	.00	137.85	191.06	.00	44.94	14.10	370.85
1997	0.00	5.90	42.49	7.41	.00	.00	147.76	198.72	15.62	44.95	13.31	404.76
1998	0.00	5.78	41.65	6.71	.00	.00	149.16	201.39	41.71	44.94	12.49	434.75
1999	0.00	5.60	40.32	6.08	.00	.00	158.23	206.15	36.34	140.37	11.68	442.37
2000	0.00	5.36	38.65	5.50	.00	.00	164.12	208.87	44.68	140.34	10.86	457.99
2001	0.00	5.10	36.75	5.93	.00	.00	160.98	206.31	66.34	84.82	11.03	472.28
2002	0.00	4.31	34.69	7.49	.00	.00	161.97	214.26	76.78	95.39	12.3	489.76
2003	0.00	4.52	32.57	8.19	.00	.00	150.75	213.69	83.73	47.70	12.71	482.66
2004	0.00	4.22	30.43	7.66	20.39	73.43	146.63	197.71	89.43	5.30	32.27	539.77
2005	0 . 0 0	3.93	20.29	6,93	26.61	95.79	126.36	183.38	59.51	.00	,37.47	495.47
2006	0.00	3.64	26.21	6.28	29.73	107.03	108.80	168.67	36.77	.00	39.65	449.56
2007	0.00	3.35	24.18	5.69	24.89	89.60	83.79	147.79	5.01	.00	33.93	352.40
2008	0.00	3.08	22.23	5.15	19.09	68.72	61.01	109.33	.00	.00	.27.32	263.24
2009	0.00	2.83	20.38	4.66	18.91	68.09	49.92	100.05	.00	.00	26.40	240.29
2010	0.00	.00	.00	4.22	8.03	28.92	41.44	92.95	.00	.00	12.25	183.69
TOTAL	0.00	85.46	615.36	262.99	147.67	531.61	2,939.93	4,085.41	576.70	4,543.48	496.12	8,749,01

Distributions of Government Revenue From the Beaufort Sea -

Mackenzie Delta Hydrocarbon Development

(millions of 1983 dollars)

Year	24 Inch Pipeline			200,00 bbl/day ProductIon						Comp I e ı Scenario	
	Property Tax	Corporate Income Tax		roperty Tax	Corporate Income Tax		PGRT	Basic Royalty	PIR	PIP	Total GNWT Revenue	Total Federal Revenue
		GNWT	Federal		GNWT	Federal						
1982	.83	.00	.00	.00	.00	.00	.00	.00	0.00	.00	.83	.00
1983	3.53	.00	.00	3.80	.00	.00	.00	.00	0.00	247.38	'7.33	.00
1984	7.92	.00	.00	11.97	.00	.00	.00	.00	0.00	378.82	19.89	.00
1905	11.29	.00	.00	16.45	.00	.00	.00	.00	0.00	692.02	27.74	.00
1596	13.79	.00	.00	16.16	.00	.00	23.62	20.99	0.00	399.55	29.95	44.62
1987	12.59	.00	.00	15.58	.00	.00	73.60	52.69	0.00	856.34	23.17	126,29
1998	11.42	.00	,00	16.23	.00	.00	84.91	70.97	0.00	221.62	27.65	155.89
1989	10.43	.00	.00	16.11	.00	.00	97.82	154.80	0.00	184.49	25.54	252.62
1990	9.52	8.70	58.76	14.83	.00	.00	90.57	152.13	0.00	65.94	33.05	301.46
1991	8.64	17.66	119.24	13.43	.00	.00	90.73	155.26	0.00	44.93	39.73	365.23
1992	7.89	18.63	125.81	12.16	.00	.00	86.46	152.14	0.00	44.94	38.69	364.41
1993	7.21	18.80	126.90	11.01	.00	.00	86.81	152.83	0.00	44.93	37.02	356.55
1994	6.56	18.51	124.96	10.OI	.00	.00	78.88	146.71	0.00	668.75	35.09	350.55
1995	5.98	17.78	120.04	9.03	.00	.00	71.29	157.21	0.00	44.94	32.79	348.55
1995	5.46	16.93	114.29	8.18	.00	.00	95.89	156.94	0.00	44.94	30.57	367.13
1997	4.96	15.98	107.90	7.41	.00	.00	103.09	162.35	0.00	44.95	28.35	373.34
1998	4.53	14.99	101.21	6.71	.00	.00	102.83	163.63	0.00	44.94	25.24	367.68
1999	4.15	13.99	94.48	6.08	.00	.00	108.85	166.49	0.00	140.37	24.23	369.82
2000	3.77	13.01	87.85	5.50	.00	.00	112.95	167.71	0.00	140.34	22.28	368.52
2001	3.45	12.06	81.43	5.93	.00	.00	109.21	164.66	0.00	84.82	21.44	355.31
2002	3.15	11.15	75.26	7.49	.00	.00	107.68	169.87	0.00	95.39	21 .74	352.82
2003	2.86	10.28	69,40	8.19	.00	.00	94.84	168.27	0.00	47.70	20.64	332.52
2004	2.62	9.46	63.87	7.66	.00	.00	93.51	154.61	0.00	5.30	19.75	311.99
2005	2.40	8.68	58.64	6.93	.00	.00	75.74	142.36	0.00	.00	18.02	276.75
2006	2.18	7.96	53.74	6.28	.44	1.60	60.94	129.96	0.00	.00	16.86	246.24
2007	2.00	7.28	49.15	5.69	.00	.00	40.72	113.06	0.00	.00	14.97	202.94
2008	1.83	6.64	44.86	5.15	.00	.00	28.25	82.88	0.00	.00	13.63	156.00
2009	1.66	6.05	40.85	4.66	.00	.00	18.92	75.05	0.00	.00	25.01	134.83
2010	1.53	.00	.00	4.22	.00	.00	11.98	69.25	0.00	.00	5.75	81.23
'eta l	164.29	254.62	1,718.73	262.99	.44	1.60	1,950.23	3,302.93	0.00	4,543.48	682 .34	6,973.49

Distribution of Government Revenue From the Beaufort Sea -

Mackenzie Delta Hydrocarbon Development

(millions of 1983 dollars)

Year	Marine - 15 Tankers			750,000 bbl/day Production							Complete Scenario	
	Property Tax	Corporate Income Tax		Property Tax	Corporate Income Tax		PGRT	Basic Royalty	PIR	PIP	Total GNWT Revenue	Total Federal Revenue
		GNwT	Federal		GNWT	Federal						
1982	0.00	.00	.00	.00	.00	.00	.00	.00	.00	73.92	0.00	0.00
1983	0.00	.00	.00	2.85	.00	.00	.00	.00	.00	279.91	?.85	0.00
1984	0.00	.00	.00	8.98	.00	.00	.00	.00	.00	144.46	8.98	0.00
1985	0.00	.00	.00	12.34	.00	.00	.00	.00	.00	695.87	12.34	0.00
1986	0.00	2.33	16.78	12.12	.00	.00	27.55	21.55	.00	365.21	"14.45	65.88
1987	0.00	.00	.00	10.98 ,	.00	.00	77.67	48.28	.00	356.52	10.98	125.95
1988	0.00	.00	.00	9.94	.00	.00	103.72	61.58	.00	945.89	9.94	165.30
1989	0.00	.00	.00	10.56	.00	.00	188.18	215.95	.00	330.81	10.56	404.16
19s0	0.00	.00	.00	13.05	.00	,00	278.60	297.51	110.84	201.85	13.05	686.95
1991	0.00	.00	.00	15.73	.00	.00	320.85	334.75	.00	871.47	15.73	655.60
1992	0.00	.00	.00	18.11	.00	.00	428.42	447.87	206.58	379.51	18.11	1,082.87
1593	0.00	.00	.00	20.31	.00	.00	584.19	587.63	617.11	190.34	20.31	1,788.93
1994	0.00	.00	.00	2 2 . 3 4	64.57	232.48	624.04	626.92	665.03	166.33	85.91	2,148.47
1995	0.00	.00	.00	22.52	41.68	150.05	615.36	624.03	587.73	377.81	64.20	1,977.17
1996	0.00	.00	.00	20.77	155.22	558.80	683.05	675.16	727.40	53.42	175.99	2,644.41
1997	0.00	.00	.00	18.81	74.74	269.07	732.97	721.25	665.50	681.06	93.55	2,388.79
1998	0.00	9.03	65.04	17.04	186.48	671.36	788.34	784.79	865.20	89.88	212.55	3,174.73
1999	0.00	11.83	85.22	15.43	184.96	665.89	611.04	804.32	824.56	354.96	212.22	3,191.03
2000	0.00	13.46	96.92	13.97	285.00	1,026.00	874.15	863.73	964.21	89.67	312.43	3,825.01
2001	0.00	14.40	103.73	12.65	370.98	1,335.54	904.73	889.12	1,017.99	.00	398.03	4,251.11
2002	0.00	14.83	106.78	11.46	382.75	1,377.92	846.63	840.54	935.93	.00	403.04	4,107.80
2003	0.00	14.86	107.06	10.38	363.54	1,308.75	759.49	767.84	821.54	.00	380.78	3,764.68
2004	0.00	14.62	105.27	9.40	333.92	1,202.12	699.78	693.01	707.95	.00	357.94	3,378.13
2005	0.00	14.15	101.94	8.51	303.24	1,091.68	588.12	623.88	607.89	.00	325.90	3,013.51
2006	0.00	13.55	97.57	7.71	273.39	984.22	514.73	562.64	518.97	.00	294.65	2,678.13
2007	0.00	12.84	92.49	6.98	245.22	882.01	449.02	507.82	439.82	.00	265.04	2,371.96
2008	0.00	12.07	86.95	6.32	219.70	790.93	391.23	459.57	370.39	.00	233.09	2,099.07
2009	0.00	11.27	81.18	5.72	193.88	697.97	335.76	413.28	302.39	.00	21 0.87	1,930.58
2010	0.00	.00	.00	5.18	157.90	568.46	289.65	374.84	273.02	.00	163.08	1,505.97
Total	0.00	159.30	1,146.99	350.27	3,837.25	13,814.12	12,887.39	13,248.01	12,230.14	6,648.99	4,34(8.82	53,326.65

Distribution of Government Revenue From the Beaufort Sea -

Mackenzie Delta Hydrocarbon Development

(millions of 1983 dollars)

Year	36 Inch Pipeline			750,000 bbl/day Production							Complete Scenario	
	Property Tax	Corporate Income Tax		Property Tax	Corporate Income Tax		PGRT	Basic Royalty	PIR	PIPP	Total GNWT Revenue	Total Federal Revenue
		GNWT	Federal		GNWT	Federal						
1982	1.17	.00	.00	.00	.00	.00	.00	.00	.00	73.92	1.17	0.00
1983	4.97	.00	.00	2.85	.00	.00	.00	.00	.00	279.91	7.82	0.00
1984	11.17	.00	.00	8.98	.00	.00	.00	.00	.00	144.46	20.15	0.00
1985	15.92	.00	.00	12.34	.00	.00	.00	.00	.00	695.87	28.26	0.00
1986	18.40	.00	.00	12.12	.00	.00	27.11	21.42	.00	365.21	30.52	48.53
1987	16.76	.00	.00	10.98	.00	.00	76.77	47.96	.00	356.52	27.74	124.74
1988	15.20	.00	.00	9.94	.00	.00	102.53	61.14	.00	945.89	25.14	163.67
1989	13.85	.67	4.52	10.56	.00	.00	185.28	214.30	.00	330.81	25.08	404.11
1990	12.62	23.13	156.15	13.05	.00	.00	274.75	295.04	109.77	201.85	48.80	835.72
1991	11.44	26.08	176.04	15.73	.00	.00	316.49	331.86	.00	871.47	53.26	824.40
1992	10.43	2-7.30	184.32	18.11	.00	.00	422.64	443.80	197.76	379.51	55.85	1,248.53
1993	9.51	27.42	185.14	20.31	.00	.00	576.63	582.08	602.69	190.34	57.25	1,946.54
1994	8.66	26.94	181.87	22.34	61.14	220.12	615.42	620.48	653.33	166.33	119.08	2,291.24
1995	7.87	25.85	174.50	22.52	37.?8	136.01	606.67	617.53	576.00	377.81	94.02	2,110.72
1996	7.17	24.59	166.03	20.77	149.24	537.29	673.28	667.76	702.79	53.42	201.78	2,747.16
1997	6.51	23.21	156.70	18.81	65.53	235.91	719.94	712.83	630.67	681.06	114.04	2,456.07
1998	5.94	21 .")7	146.99	17.04	1"?7.34	639.43	775.29	775.40	837,95	89.88	222.10	3,174.07
1999	5.42	20.33	137.23	15.43	175.45	631.65	797.28	794.33	•797.56	354.96	216.59	3,158.07
2000	4.92	18.90	127.63	13.97	274.73	989.04	859.04	852.62	936.33	89.67	312.54	3,764.68
2001	4.49	17.53	118.35	12.65	360.41	1,297.49	838.99	877.49	990.08	.00	395.09	4,172.43
2002	4.10	16.21	109.42	11.46	372,34	1,340.44	831.01	829.01	908.93	.00	404.11	4,018.82
2003	3.72	14.95	100.94	10.38	353.66	1,273.21	744.62	756.93	796.24	.00	382.72	3,671.95
2004	3.40	13.76	92.93	9.40	324,73	1,169.03	655.90	682.92	684.58	.00	351.30	3,285.37
2005	3.10	12.64	85.35	8.51	295.19	1,062.71	575.96	614.49	587.75	.00	319.46	2,926.28
2006	2.82	11.59	78.24	7.71	265.84	957.05	503.28	553.84	500.22	.00	287.97	2,592.65
2007	2.57	10.60	71.58	6.98	238.50	858.62	438.82	500.06	423.16	.00	258.67	2,292.26
2008	2.35	9.68	65.34	6.32	213.14	767.30	381.21	451 .%	354.24	.00	231.49	2,020.05
2009	2.14	8.81	59.52	5.72	187.78	676.01	326.41	40S.23	287.43	.00	204.46	1,755.62
2010	1.95	.00	.00	5.18	148.83	535.80	280.85	368.26	265.21	.00	155.97	1,450.13
Tota I	218.69	382.05	2,578.89	350.27	3,701.71	13,326.18	12,656.29	13,079.85	11,842.80	6,648.99	4,652.72	53,484.01

SECTION 5

BSEAP - Interests respecting the Renewable Resource Economy

A. Growth of the Balanced Economy

The Government of the Northwest Territories plays a major role in fostering the development and expansion of the renewable resource sector of the Northwest Territories economy. The importance of renewable resource use activities such as hunting, trapping, and fishing and their relationship with the maintenance of northern lifestyles and cultural heritage has been recognized in the Renewable Resource Use Policy, a recent GNWT policy initiative. Indeed, the GNWT is interested in fostering the development of renewable resource opportunities relating to all aspects of renewable resource use including domestic/subsistence, commercial and outdoor recreational uses[1]. This policy recognizes the importance of business activities tied to the use of renewable resources as a means of improving the well being of N.W.T. residents.

The Economic Development Agreement, or more specifically the Subsidiary Agreement on Natural Resource Development between the Government of Canada and the GNWT, recognizes the economic significance of fostering business opportunities from renewable resource activities. Specifically, the subsidiary agreement seeks to achieve a balance between wage employment activities and those which support the traditional economy.

1. For purposes of this submission "domestic/subsistence use" means the and culture for

Through its long term recognition of the importance of domestic/subsistence renewable resource uses and its growing emphasis on commercial renewable resource uses, the GNWT has sought and continues to seek direct renewable resource use activities to achieve broad social and economic development goals. In light of this policy framework, the objective of this section is to identify positive economic opportunities for the renewable resource economy arising from the Beaufort Sea hydrocarbon development. Although the potentially negative implications of Beaufort Sea hydrocarbon development for renewable resource development cannot be overlooked, it is equally important that the positive opportunities for growth and improvement in the renewable resource sector be considered.

B. Opportunities for the Renewable Resources Economy

The Mackenzie Delta-Beaufort Sea area has an extensive history of government sponsored initiatives aimed at commercializing renewable resource harvesting. Recent feasibility and market assessment studies have focused on the commercial harvest of muskox, caribou and various species of fish, most noteable arctic char, whitefish and lake trout. Although many of the renewable resource development initiatives along these lines have met with limited success, the opening of a retail country foods outlet in Inuvik in 1982 and the continuing commercial harvest of reindeer on the Tuktoyaktuk Peninsula are examples of successful commercial developments relying on renewable resource harvesting. As an overview, the following renewable resource opportunities have potential for commercial development stimulated by regional hydrocarbon development activities:

Commercial Harvesting

- Fisheries - particularly whitefish, Arctic Char, and herring
- Caribou - Bluenose herd
- Muskox

Tourism/Recreational Harvesting

- Sports fishing and hunting
- Wildlife oriented tours

The supply of country foods to exploration base camps in Tuktoyaktuk whether via native development corporations, hunter and trapper associations or private businesses, represents one means of allowing renewable resource harvesters to participate in hydrocarbon development activities. As has been the case at Dome's Tuk base camp, consumption of country foods by workers has provided additional indirect employment and business opportunities to Northern workers while at the same time remaining within the sustainable yields established by government.[1]

Both Dome/Canmar and Gulf/Beaudril have purchased country foods from co-ops and from Ulu Foods of Inuvik a business owned by the Inuvialuit Development Corporation. For example, Dome placed an order for 5,000 lbs. of arctic char in early 1983. Caribou and muskox have also been used on occasion although in much smaller quantities.[2] Ulu Foods employs seven Inuvik residents and markets caribou, muskox, whitefish, arctic char, and whale meat products. Expansion into the smoked meat market is anticipated in late 1983.[3] Nevertheless, the potential for marketing country foods to exploration camps has largely not been realized. Despite the positive reaction of oil camps workers, cost constraints and food preparation difficulties have posed problems. In the interest of encouraging commercial renewable resource activities in the Beaufort area, and to satisfy northern worker cultural tastes, operators should place greater emphasis on the provision of country foods to the northern labour force.

With the expansion of exploration and development activities both onshore and offshore, the potential demand for country foods supplied by local hunters and fishermen will increase. Regulations developed by the Government of the Northwest Territories in consultation with federal

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1. Quotas established by the Department of Renewable Resources and Fisheries and Oceans Canada for the various species of fish and wildlife for the Beaufort Sea - Mackenzie Delta Region are summarized in Tables 5.1 and 5.2.
2. Dome Petroleum Ltd. Beaufort Sea operations personnel, June 10, 1983.
3. W. Davidson, Manager Ulu Food, Inuvik, July22, 1983.

departments are designed to ensure that excessive harvesting of certain species is avoided. In the interest of furthering the social, cultural and economic needs of Northwest Territories residents, the Department of Economic Development and Tourism encourages resource development companies such as Dome, Esso, and Gulf to acquire country foods from local businesses and associations within the sustainable yield limitations prescribed by the government. Traditional uses of renewable resources such as subsistence nutritional needs do, of course, have priority over commercial meat production in establishing harvest quotas.

C. Renewable Resource Harvesting Income

A review of income derived from trapping activities for nine Beaufort Sea-Mackenzie Delta communities indicates a wide variation in the level of income from trapping when measured in real terms. For example, in Table 5.3, reported income from fur bearer trapping in Aklavik was $336,000 for the 1976/77 season, while it declined by 72 percent to $93 ,000 in 1979/80. Fluctuations in the incomes of individual trappers are even greater when measured on a proportional basis. Moreover, hunters and trappers from communities which are highly reliant on cash incomes from one or two species are particularly exposed to the adverse effects of fluctuations in harvest levels and/or fur prices. The social and economic hardships resulting from these fluctuations are of direct concern to the GNWT. For this reason, the stabilizing effect of wage employment provided by the oil and gas indutry has been encouraged, and indeed one of the major policy thrusts with respect to resource development has been directed toward increasing northern participation in wage employment.

In addition, based upon the principle of extending benefits to all sectors of the N.W.T., the GNWT has sought to extend benefits of wage employment to all residents whether they be residents of small communities or major regional centres. With respect to those Beaufort Sea communities included in Table 5.3, reliance on fur trapping for cash income varies by community, and similarly certain Beaufort Sea communities which have generally experienced higher levels of unemployment have greater need for additional

wage employment opportunist ies, such as those which could be offered by the Beaufort Sea hydrocarbon development. For this reason, as well as those contained in the Resource Development Policy, the proponents must continue to develope and expand northern employment and training intiatives for residents of N.W.T. communities, particularly these residents of Beaufort Sea Mackenzie-Delta communities.

D. Participation in Renewable Resource Harvesting

The issue of whether meat production for both subsistence and increasingly significant commercial use will decline as a result of increased participation of Beaufort Sea hydrocarbon development activities has largely not been resolved. Nevertheless, a number of parallels between the rotational employment experience of Coppermine Inuit and Gulf's Mackenzie Delta drilling operations have been drawn which shed some light on the effects of native hydrocarbon employment on harvesting activities.

Specifically, Hobart, Walsh and Associates (1980) addressed the effects of rotational employment on trapping, seal hunting, caribou hunting and fish harvesting in Coppermine during the period, 1973-1978.[1] In general, the study found that with a few exceptions meat supply was not reduced and that trapping activities showed no clear pattern of increase or decrease. Findings for specific traditional harvesting activities resulting from Hobart's study of 54 to 90 Coppermine residents involved in Gulf's rotational employment program included the following:

Trapping

> The data for the period "suggest that there was some increase in trapping activity as indexed by the number of furs taken. The interview data show no clear pattern of increase or decrease. The explanation of this apparent increase lies in the increased availability of resource harvesting equipment in the community, particularly skidoos, puchased with funds earned working for Gulf Oil."[2]

1. Hobart, Walsh and Associate Consultants Ltd., Rotational Employment of Coppermine Inuit Men: Effects and Community Perspective, Ottawa, 1980
2. Hobart, p.7

TABLE 5.1

HARVEST AND QUOTA STATISTICS FOR
COMMERCIAL HARVEST OF SELECTED SPECIES OF WILDLIFE
BEAUFORT SEA/MACKENZIE DELTA AND ENVIRONS

1. Musk-ox

Community	QUOTA [1] 1982/83	HARVEST [3] 1 $%1/@	1982/83
Inuvik			
Tuktoyaktuk			
Paulatuk	50		
Aklavik	–		
Coppermine	18	17	17
Sachs Harbour	2,000	224	82
Holman Island	110		35

2. Caribou (primarily Bluenose herd)

Inuvik, Tuktoyaktuk, Paulatuk, Aklavik, Coppermine	800	400	
Banks Island			
Holman Island	25	12	

3. Polar Bear

Tuktoyaktuk	26	20	26
Paulatuk	17	17	17
Aklavik	5	1	5
Coppermine	6	5	2
Sachs Harbour	22	14	20
Holman Island	20	14	16

1. Northwest Territories, Wildlife Ordinance
2. The harvest of domesticated reindeer in the Tuktoyaktuk Reindeer Grazing Area is not subject to the Wildlife Ordinance.
3. Department of Renewable Resources, June 22, 1983.

TABLE 5.2

QUOTAS FOR COMMERCIAL FISHING
(000 Kg.)

SPECIES	NWT Quota[1]	Region I Mackenzie Delta Quota
Arctic Char	707.5	37.7
whitefish and Trout	1,458.4	15.2
whitefish	84.0	83.5
Trout	20.6	20.6
Cism	30.7	30.2
Herring	455.1	455.1
Burbot and Pike	13.8	13.8
Inconnu	7.0	7.0
cod	11.4	11.4
Pickerel	72.0	0
Total	2,886.0	674.5

1. Quota excludes Great Slave Lake.
2. Canada Gazette, Commercial Fisheries Quota for the Northwest Territories, PL 1581-1545, Schedule V

TABLE 5.3

BEAUFORT SEA COMMUNITIES
TRAPPER INCOME

Community	(A) Population 1581 [1]	(B) Number of Trappers [2]	B/A(%)	Reported Fur Trapping Income [3] ($000 1981) 1976/77	1977/78	1978/79	1979/80	1980/81
Aklavik	721	66	9	336	294	287	93	196
Inuvik	3,147	73	2	234	297	402	201	257
Tuktoyaktuk	772	40	5	179	102	287	100	104
Paulatuk	174	12	7	62	10	90	58	22
Coppermine	140	47	34	241	111	395	260	198
Holman Island	300	51	17	355	146	91	121	235
Sachs HartOur	161	18	11	162	115	121	63	60
Ft. McPherson	632	69	11	179	225	340	210	150
Arctic Red	120	17	14	46	69	82	74	71
TOTAL	6,167	393		1,794	1,369	2,095	1,180	1,293

1. Statistics Canada, Catalogue E-570, 1983
2. GNWT, Department of Renewable Resources, Trapper Income Ranges, 1983 Number of Trappers refers to those with incomes from trapping greater than $600 during the 1980-81 season.
3. Figures presented in constant $193 base on Statistics Canada Consumer Price Index, Catalogue 62-001 .
4. The population of Inuvik consisted of approximately 7%, Dene 17% Inuit, and 76% other.

seal Hunting

Relatively little interest was expressed at the time of the interview in seal hunting. This could be attributed to the replacement of dog teams by skidoos and by the disastrous slump in seal skin prices.

Caribou Hunting

Notwithstanding the difficulties encountered in gathering caribou harvest statistics, "no dependable indications of reduced caribou harvesting during the Gulf years" were determined.[3]

Fish Harvesting

The majority of the Coppermine residents interviewed reported that they went to spring fishing camps and that they brought fish back when they returned. Indeed, two-thirds of the Gulf employees interviewed reported that they did not reduce the number of fish taken or stored in the community freezer as a result of their increased financial independence.

The importance of hunting and trapping to residents of Beaufort Sea Communities varies significantly by community. As a general rule, for the eight Beaufort Sea communities, the relative importance of trapping for a community, as measured by the ratio of trapping families to total families, varies inversely with the size of the community. This was shown already in the EIS (Volume 5, Table 5.2-1) and is similarly confirmed here in Table 5.3 which indicates that the communities of Coppermine, Holman Island, A-retie Red River, and Aklavik have the highest ratio of trappers to total population.

Participation in wage employment, whether directly with an oil company or indirectly with a supplier of goods and services, provides a major economic advantage to trappers exposed to widely fluctuating market conditions and harvest results. The experience of Coppermine residents with Gulf in the MacKenzie Delta has documented the economic and social advantages from combining wage and employment with renewable resource harvesting activities. Reliance on labour force rotation schemes which snow residents of NWT communities to participate in wage employment while retaining community social and cultural ties is encouraged by the Government of the Northwest Territories.

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3. Hobart, p.7

The recent experience of sealing communities in the Kitikmeot and Baff in Regions with the steep decline in sealskin prices illustrates the problem of a non-diversified local economy. The steep decline in sealskin prives and hence earnings from sealskin sales is illustrated in Table 5.4 which reveals the situation in Holman Island. Concern over the decline in demand for sealskins prompted the Legislative Assembly of the Northwest Territories to consider the introduction of a sealskin price support program. The GNWT has also assisted in identifying new markets for N.W.T. sealskins in an attempt to diversify the current dependence on the European market.

Table 5.4

Sealskin Earnings and Prices

Holman Island, NWT [1]

	Pelts Sold	Value ($000)	Average Price ($)
1980–81	5,704	111.1	19.49
1981 82	2.299	51 1	22.22
1982-83	1,505	21.8	14.45

Source GNWT, Department Of Renewable Resources, Fur Returns

1. Earnings derived primarily from the sale of ring seals.