

**A proposal to
study the impact of current and future
offshore oil exploration activity
on the economy of the Atlantic Provinces**

HD
9574
C23
M341

E. I. U. CANADA LIMITED
Consulting Economists
Toronto

1131

HD
9574
C 23
M341



A PROPOSAL

TO

STUDY THE IMPACT OF CURRENT AND FUTURE OFFSHORE OIL EXPLORATION ACTIVITY
ON THE ECONOMY OF THE ATLANTIC PROVINCES

presented to

DEPARTMENT OF REGIONAL ECONOMIC EXPANSION, CANADA

by

E.I.U. CANADA LIMITED,

Toronto, February 23, 1971.

CONTENTS

	Page
STUDY OUTLINE	
PHASE I - Short-Term Impact of Exploration Activities	1
PHASE II - Economic Effects of Potential Offshore Oil and Gas Production	4
PERSONNEL	7
PROFESSIONAL QUALIFICATIONS OF THE PROPOSED RESEARCH TEAM	
E.C. Sievwright	9
P.F.M. McLoughlin	13
C.G. Drayton	14
J. McNicholas	15
I.E. Holmes	16
CONSULTANT/CLIENT RELATIONS	17
CONSULTANT/INDUSTRY RELATIONS	18
MAP I - PROPOSED AREAS FOR STUDY	20
BUDGET	21
PROPOSED TIME ALLOCATION	23
CHRONOGRAM	24

PHASE ISHORT-TERM IMPACT OF EXPLORATION ACTIVITIES1. Description of the Exploration Play

- a. Acreage involved
- b. General comment on the sedimentary potential; results to date
- c. Companies, their drilling programmes, and timing
- d. Present activities onshore, offshore
- e. Likely developments
- f. Elaboration of study areas. Description of three cases:
 - i. Maintain present level of activity
 - ii. Decline
 - iii. Increase
- g. Related activities outside Atlantic region

2. Direct or Autonomous Impact - Present and Futurea. Employment

- i. Onshore, offshore; Specific skills
- ii. Local labour component. Man years; wage bill
- iii. 'Imported' labour component. Man years; wage bill
- iv. Local labour supply related to present and future requirements
- v. Training requirements; relate to timing of programmes
- vi. Housing requirements; school places needed

b. Capital Investmenti. On Site

Specific nature
 Recoverable and non-recoverable
 Gross value
 Source of materials
 Direct employment
 Value added
 Likely future programmes

ii. Off Site

Specific nature
Gross value
Future investment
Possibilities of local substitution

3. Indirect or Induced Effects

- a. Onshore service and supply functions
- b. Induced investment; specific reference to shipbuilding
- c. Induced employment
- d. An investment multiplier, relating offshore dollars spent to onshore employment and incomes

4. Labour Force Factors

- a. Labour/management relations
- b. Training and educational requirements
- c. Optimum utilization of local labour and management potential
- d. Effect of the programme on emigration from and immigration to the region

5. Total Regional Impact, Related to Location

- a. By province, by year
- b. Employment
- c. Incomes

6. Possible Areas of Sectoral Problems

Relate exploration programmes to existing activities:

- a. Fishing
- b. Navigation and shipping
- c. Recreation
- d. National defence

7. Necessary Provisions for Future Environmental Protection

- a. By the companies
- b. By different levels of Government

8. Present Requirements for Government Services and their Adequacy

- a. Municipal
- b. Provincial
- c. Federal
- d. Possible future requirements

9. Summary of Total Regional Impact of Current and Likely Exploration Programmes - by Province

PHASE IIECONOMIC EFFECTS OF POTENTIAL OFFSHORE OIL AND GAS PRODUCTION1. Delineation of Potential Areas of Development - See Map I
(Preliminary, subject to more detailed review)

- a. The Scotian Shelf
- b. Grand Banks
- c. Gulf of St. Lawrence
- d. Labrador Coast
- e. Relate these areas to specific company acreages and plans

2. Requirements for Commercial Production

- a. Oil - by development area. Proven reserves. Range of production
- b. Natural gas - by development area. Proven reserves. Range of production
- c. Likely specifications of potential production

3. Development Costs - By Area - Related to Production Ranges

- a. Onshore, capital, labour
- b. Offshore, capital, labour
- c. Total on-site expenditures (i.e. Atlantic region)

4. Potential Markets for Future Production - 1975 and 1980 - By Area

- a. Oil. Relate to reserves and production rates
 - i. Canada
 - ii. United States
 - iii. Offshore
- b. Natural gas. Relate to reserves and production rates
 - i. Canada
 - ii. United States
 - iii. Offshore (L.N.G.)

- c. Analyze likely transportation costs to these markets
- d. Possibility of Liquefied Natural Gas shipments
- e. Relate wellhead net-back to estimated finding and development costs
- f. Implications of international oil problems

5. Regional Economic and Social Impact, Assuming Production by Area

- a. Local secondary industry expansion
- b. Local tertiary industry expansion
- c. Linked investment, e.g. petrochemicals; timing and possible location

6. Permanent New Employment

- a. Onshore
- b. Offshore
- c. Relate to local labour supply
- d. Training requirements

7. Transportation Requirements for Commercial Production - by Area

- a. Ownership. Sources of capital
- b. Initial - oil; gas
- c. Permanent - oil; gas
- d. Regional economic impact

8. Present and Future Government Functions

- a. Municipal
- b. Provincial
- c. Federal

9. Possible Areas of Sectoral Conflict

- a. Fishing
- b. Navigation and shipping
- c. Recreation
- d. National defence
- e. Environmental protection

10. Overall Social and Economic Benefits of Commercial Production - by Area

- a. Projection of regional economic growth without petroleum developments
- b. Projection of regional growth with different ranges of production
- c. Relate possible growth to Canadian economy
- d. Assess reduction in regional disparity

11. Impact on Provincial Revenues - by Area

PERSONNEL

In a project of this technical nature, involving essentially two streams of investigation, it is undesirable to field too large a team. As a result, we propose to use four specialists, three of which will devote six full months to the project. The Project Director will be Dr. Sievwright, who has, over the past twenty years, been engaged in economic research covering regional development studies as well as a wide range of energy projects. With this background, Dr. Sievwright will be in a strong position to co-ordinate the dual nature of the study. He will be responsible for the oil industry liaison and the oil industry component of the study, as well as the overall co-ordination of the project.

The study consists of two principal components. First of all, the nature of the exploration programme and the likely scope of development activities; and secondly, the impact which the two stages of investment will have on the regional economies of the Atlantic Provinces. There could be a strong temptation to emphasize one or other of these areas of study, but a balanced perspective of the problem will be maintained, and the Project Director will ensure a symmetrical approach.

Geoffrey Drayton will be involved as a senior oil consultant. Mr. Drayton has many years of expertise in the oil industry, going back to 1956. For the past six years he has been involved in a number of economic studies concerning various aspects of the international oil industry. Of specific interest to this project, he has completed several studies on the impact of oil industry investment in many countries. We believe that his expertise in oil industry matters and his specific background on oil impact studies will be of particular benefit to this project.

On the regional economic development side, Dr. Peter McLoughlin brings fifteen years of applied experience in regional development economics. He has led many projects involving industrial development feasibility studies, transportation economics, as well as land use analysis. Dr. McLoughlin will be located in Fredericton, New Brunswick, where he assumes the post of Chairman of the Department of Economics of the University of New Brunswick in the fall of 1971.

Behind these three senior project members will stand two supporting consultants. John McNicholas has a rapidly-growing range of experience in energy studies, as well as industrial market analysis. He will be available to support either side of the research programme.

Finally, Mrs. Irene Holmes will provide the administrative and statistical back-up which will be required to co-ordinate the assembly of the background data. Mrs. Holmes has been engaged in the analysis of regional economic data for all regions of Canada, including the Atlantic Provinces, and will provide the basic raw material with which much of the economic analysis will proceed.

Individual c.v.'s follow.

PERSONNELPROFESSIONAL QUALIFICATIONS OF THE PROPOSED RESEARCH TEAMERIC C. SIEVWRIGHT, Ph.D. - Project Director

President, E.I.U. Canada Limited and E.C. Sievwright Associates Limited, Consulting Economists.

Academic Qualifications

B.Sc. (Econ.), University of London,
M.A. and Ph.D. (Econ.), McGill University.

Ph.D. Thesis entitled "Petroleum Developments and the Alberta Economy", involved three summer periods in Alberta, sponsored by the Alberta Government and Imperial Oil Limited.

Taught economics and related subjects at McGill University, University of Toronto and York University.

Business Experience

Joined Shell Canada Limited in 1953 in Department of Economics and Planning. Appointed Assistant Manager of that Department in 1956, and in 1957 Assistant Vice President, Transportation and Supplies, appointment held until leaving Shell in 1959. During the six years at Shell, responsible for all of the Company's industry forecasts, including energy demand and supply balances; responsible for major oil refinery site location study; prepared Company's submissions to Gordon, Borden Commissions, etc.

Appointed Chief Economist of the National Energy Board in 1963. Did not take up appointment, for personal reasons.

Other Experience

Contributed regular articles to "World Petroleum" since 1956. Contributing editor to "Canadian Petroleum" since 1960. Also responsible for numerous articles and papers on oil and gas.

E.C. Sievwright (Continued)Consulting Experience

Became Consulting Economist in 1959, forming E.C. Sievwright Associates Limited four years later and E.I.U. Canada Limited in 1967. Since then, has specialized in energy studies, including oil, gas, pipelines and petrochemicals, and regional development. During this eleven-year period, every province in Canada has been reviewed, as to economic base and energy supply/demand balances. The relationship between Canadian energy supply and U.S. energy demand has been studied in considerable depth. Currently Advisor to New Brunswick Development Corporation for petroleum and petrochemical developments.

Recent Clients in Fields Related to Present Study

Government of Canada
Government of New Brunswick
Government of Manitoba
BP Oil Limited
Triad Oil Company Limited
Panarctic Oils Limited
Dome Petroleum Limited
Great Plains Development Company of Canada Ltd.
Canadian Hydrocarbons Limited
Greater Winnipeg Gas Company
Northern & Central Gas Corporation Limited
Consumers' Gas Company
Union Gas Company of Canada Limited
Gaz Metropolitan
Panhandle Eastern Pipeline
Mobil Oil Corporation
Union Carbide Canada Limited
Union Carbide International, New York
Dow Chemical Company
Canadian Pacific
Canadian National Railways
Superior Propane Limited
Provo Gas Producers Ltd.

E.C. Siewwright (Continued)Regional Development Studies

Petroleum Developments and the Alberta Economy
(Doctoral Dissertation)

The Nova Scotia Coal Industry

Economic Survey of Western Manitoba

Economic Survey of South-Western Manitoba

Review of Atlantic Provinces Coal Subventions and their
Regional Economic Significance

The Atlantic Provinces Economy and the Demand for
Petroleum Products

The Industrial Potential of the City of Moncton

Petroleum Developments at a Proposed Deep Water Port
in New Brunswick

Advisor to the New Brunswick Development Corporation

Quarterly Reviews of the Atlantic Provinces Economy

Energy Field Studies

The Nova Scotia Coal Industry

Review and Analysis of Market Area to be Served by
Cochin Pipeline

Review and Forecast of Demand for Fuel Oils in Ontario
and Quebec

Review and Analysis of Principal Petroleum Product
Prices in Ontario and Quebec

Review and Analysis of the Montreal Refining Area in
Relation to the National Oil Policy

The Atlantic Provinces Economy and the Demand for
Petroleum Products

Natural Resource Revenues in Ontario -- Mining, Oil
and Natural Gas

The Markets for Alberta Propane in Canada

An Economic Evaluation of Coal Subventions in Canada

E.C. Sievwright (Concluded)

Energy Field Studies

The L.P.G. Industry in Canada
Natural Gas Demand and Supply in Ontario and Quebec
British Columbia Economy and the Demand for Petroleum
Products
Propane Demand and Supply in Canada
Canadian Crude Oil Supply and Demand
Prairie Provinces Economy and the Demand for Petroleum
Products
Assessment of the Availability of Petrochemical
Feedstocks
Demand for L.P.G.'s in Eastern Canada
Forecast of Alberta Propane Requirements to 1988
Potential Markets for Heavy Crude Oil from Western
Canada
Forecast of Propane Sales by Province to 1990
Alaska and the Canadian Oil Industry
L.P.G. Supply and Demand Factors
The Ontario Motor Gasoline Market
Marketing Factors re Alberta Liquid Hydrocarbons
Evaluation of the Panarctic Oil Play

P.F.M. McLOUGHLIN, Ph.D. - Senior Consultant

Research Associate, E.I.U. Canada Limited.

Academic Qualifications

B.A. (Econ.), University of British Columbia,
British Colonial Service Training Course, Trinity College,
Oxford,
Ph.D. (Econ.), University of Texas.

Business Experience (Principal Appointments)

Personnel and industrial relations with Shell Canada Limited, including six months on drilling rigs, production batteries and seismic crews, 1955-1956.

Professor of Economics, University of Santa Clara, California, 1965-1968.

Director of Economics Division, East Africa Development Bank, 1968-1970.

Consulting Experience (1956-1970)

Research Economist, International Bank for Reconstruction and Development; also with Economic Development Institute of the I.B.R.D., 1963-1965.

Consultant to Ford Foundation, Lockheed Aircraft, Development & Resources Corporation, Stanford Research Institute. Projects for these clients have covered a wide range of topics, generally involving regional economic development, land use, transportation and industrial feasibility.

As Director of the Economics Division of the East Africa Development Bank, was responsible for setting up the planning and project investment analysis function.

Appointed Chairman, Department of Economics, University of New Brunswick, effective fall 1971.

C.G. DRAYTON - Senior Consultant

Project Director, Transport & Energy Division, The Economist Intelligence Unit Limited, London.

Academic Qualifications

B.A. (Hons.), Political Economy, Cambridge University.

Business Experience

Research Economist with the Government of Canada 1947-1948, followed by three years as a schoolmaster in Canada.

From 1951 to 1954, freelance journalist in Spain and the United Kingdom.

On the staff of the "Petroleum Times" from 1954 to 1965; Editor-in-Chief from 1960 to 1965.

Consulting Experience

Joined The Economist Intelligence Unit as Senior Research Consultant in 1966 and became Project Director in 1969. Since joining E.I.U., has carried out numerous international energy studies, including the following:

Impact of Oil Industry on Local Economies of Major Producing Countries

U.K. Markets for Various Oil Products

Comparative Study of Oil Concession Legislation

Feasibility Study on the Manufacture of Chemicals from Natural Gas in the Mediterranean Area

Study on the Co-ordinates of Policies of National Oil Companies in the International Market

Regular Reports on Developments in Production and Marketing of Crude Oil and Natural Gas in the Major Exporting and Importing Countries

Regular Reports on Major Oil Marketing Developments in Ten Major Consuming Countries

J. McNICHOLAS - Consultant

Research Associate, E.I.U. Canada Limited

Academic Qualifications

B.Com., University of Dublin,
M.A., University of Toronto.

Business Experience

Four years with Shell Canada Limited, in market forecasting. This involved industry supply/demand forecasts, with specific relation to the Company's forward planning function.

Consulting Experience

Research Associate, E.I.U. Canada Limited, since 1967.

Responsible for major contributions to certain Canadian oil and gas studies referred to above, as well as several industrial market studies.

I.E. HOLMES - Consultant

Research Assistant, E.I.U. Canada Limited

Academic Qualifications

B.A., University of Toronto.

Business Experience

Ten years of varied administrative and statistical experience.

Consulting Experience

With E.I.U. Canada Limited for one year.

Currently responsible for compilation and analysis of regional economic data, including the Atlantic Provinces.

CONSULTANT/CLIENT RELATIONS

In a project of this scope, it is extremely important that the Consultant maintain a close liaison with the Client, especially in the early stages of the study, when any possible deviation from the objective can be magnified dramatically as the weeks and months progress. With this in mind, we would propose to attend in Ottawa once a month to present a factual reporting of the preceding month's progress. At a preliminary meeting it is likely that a number of questions will be raised -- these questions arising out of the early investigations, and which would not have been identified in the initial briefing or in the outline of the terms of reference, comprehensive as they were.

One particular aspect of concern in the area of Consultant/Client relations is the body of assumptions which must be identified. Clearly, it is not practical in the preliminary stages of the study to identify completely all the assumptions which must be made, and again, in the early meetings some of the basic assumptions will have to be reviewed and confirmed. For example, the U.S. oil import programme will have to be identified for purposes of evaluating possible markets for potential commercial production of crude oil. Also, during the six months duration of the study, many changes could conceivably be made in U.S. or Canadian energy policies or, indeed, Canadian regional development policies. We would appreciate the privilege of consulting on an *ad hoc* basis with the Steering Committee, in order to avoid any misinterpretation of the basic parameters upon which the study should proceed.

CONSULTANT/INDUSTRY RELATIONS

One of the most important aspects of the study will be the gathering of data from the companies involved in the offshore exploration play. An exploration activity of this kind is always surrounded by strict security measures and, understandably, the principal companies may be reticent about discussing, with complete frankness, the details of their operations. In this respect, the confidence instilled by the Consultant is of great significance.

Of 308.2 million acres currently under lease, 237.1 million, or 77.0%, are held by twelve of the sixty-five companies involved at the present time. Dr. Siewwright has, in recent years, worked with seven of these companies, namely Mobil Oil Corporation, Triad Oil, BP Oil, Dome Petroleum, Canadian Industrial Gas & Oil, Pan Am, and Shell Canada. These companies represent a total acreage of 165.5 million, or 53.7% of the total play.

We believe that the nature of current relations with these companies, and the senior level at which these contacts have been maintained, will greatly facilitate our successful cooperation with the industry.

<u>Principal Companies in the Play</u>	<u>Acreage (Millions)</u>	<u>% of Total</u>
Shell Canada	47.5	15.4
Tenneco	31.8	10.3
Pan Am/Imperial	35.0	11.4
Pan Am	17.7	5.7
Mobil Oil	29.4	9.5
Triad/BP	12.1	3.9
Amoco	13.7	4.5
Dome Petroleum	20.8	6.8
C.I.G.O.	3.0	1.0
Gulf Canada	8.5	2.8
Texaco Exploration	9.2	3.0
H.B.O.G. & Petrofina	<u>8.4</u>	<u>2.7</u>
	<u>237.1</u>	<u>77.0</u>
Total	308.2	100.0

While there are sixty-five companies or groups currently holding exploration permits in the Atlantic Coast offshore play, the major thrust of the exploration effort will be borne by the twelve companies listed above. It would seem, therefore, that depth analysis of the exploration plans of these twelve companies would give a good indication of the overall scope of the programme.

Going further, the four delineated areas of development can be identified with specific companies. For example, the Scotian Shelf, Group A, ⁽¹⁾ can be identified with Shell Canada and Mobil Oil Corporation. The Grand Banks area, Group B, can be identified with the Amoco/Imperial Oil play, combined with Mobil Oil Corporation. The Gulf of the St. Lawrence area, Group C, is more diversified, but here Texaco Exploration and Amoco would give the best coverage. Finally, the Labrador Coast area, Group D, would be best represented by the Tenneco, Amerada & French Petroleum group, along with Shell Canada, Triad and BP.

The potential development of the four areas will be analyzed with specific reference to the exploration programmes planned by the companies operating in these areas: By concentrating the analysis on specific companies and their projected drilling programmes, it is felt that a more realistic assessment of the likely developments may be obtained.

The role of the remaining fifty-three companies holding acreage will be identified. In most instances, the companies do not have the resources for individual drilling programmes and, in all likelihood, they will probably make some arrangement for a "farm-out" with larger landholders on adjacent properties. The pace of such agreements would depend upon the discoveries and their location.

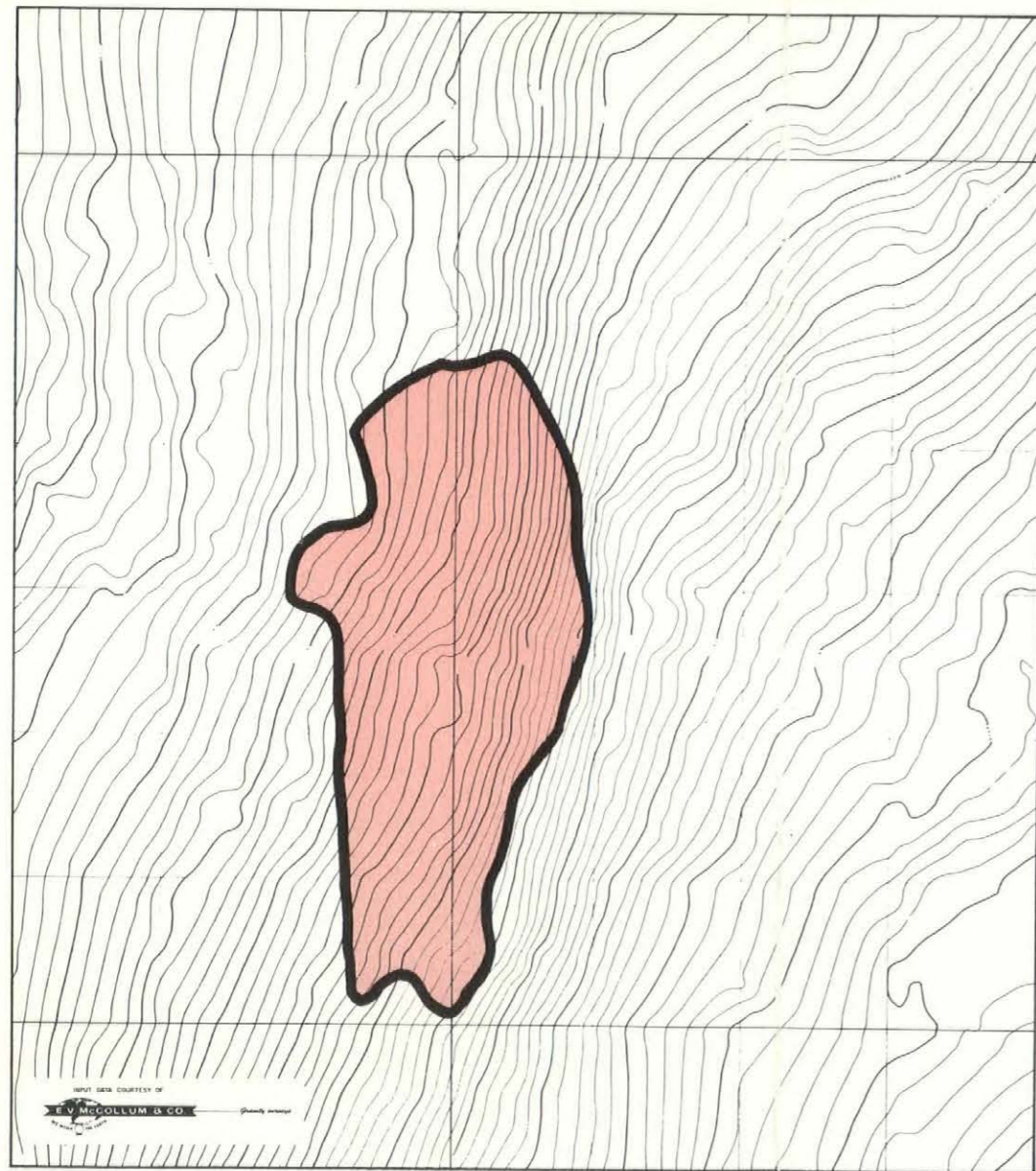
Another advantage of relating the potential exploration programmes to specific companies is the fact that these companies probably have done some analysis on transportation problems to potential markets. In this way, it will be possible to relate potential production to specific markets and, in turn, evaluate gathering and transportation costs to these markets.

(1) See Map I below.

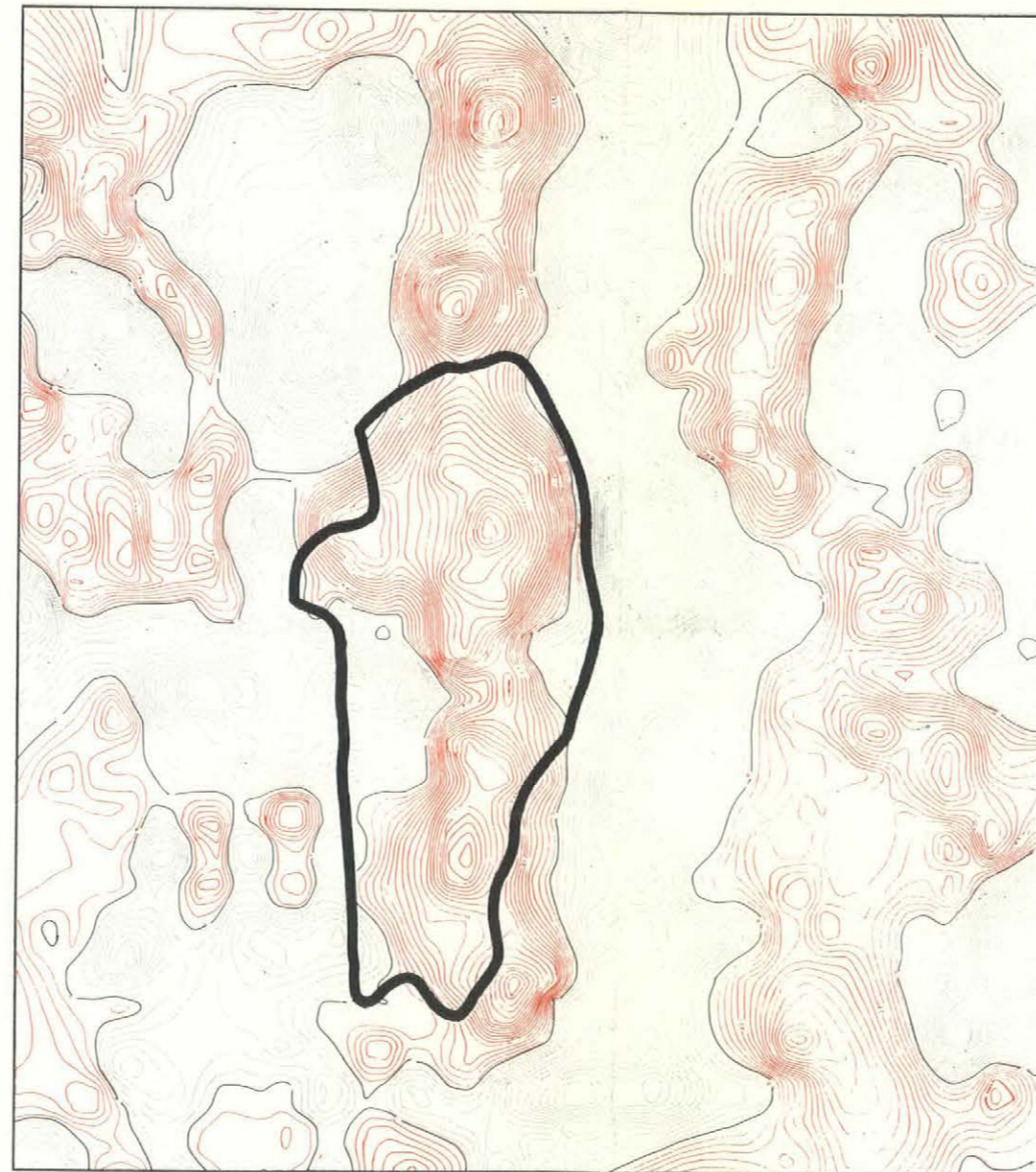
THE PROSPECTOR SYSTEM where to drill

HERE IS THE FIELD...

HERE IS THE POTENTIAL...



ORIGINAL GRAVITY MAP



RESIDUAL: SIXTH DEGREE POLYNOMIAL

SIEBENS



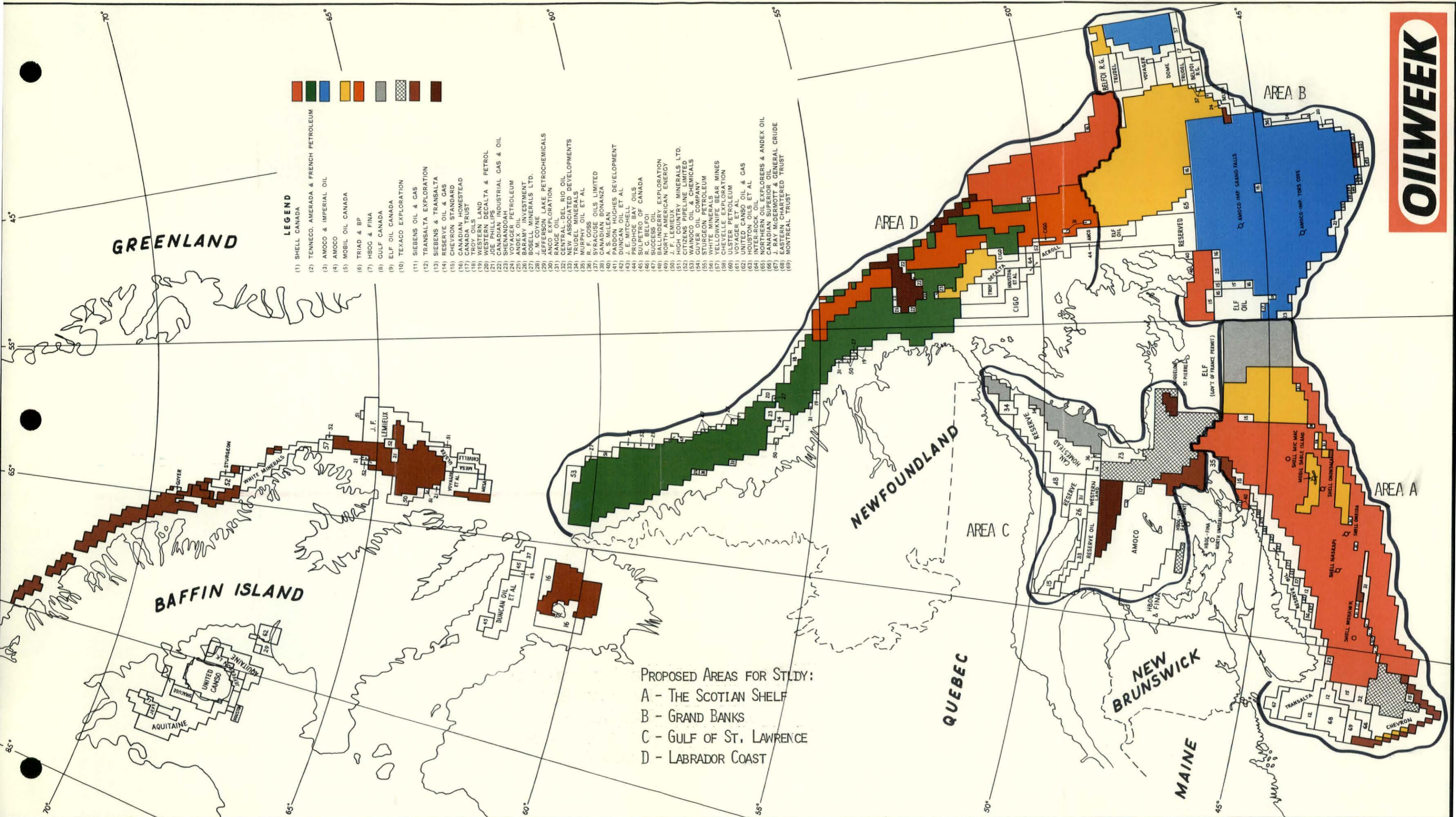
OFFSHORE PROPERTIES: 51 MIL
MACKENZIE DELTA • ARCTIC ISLANDS • HU

SIEBENS OIL &
708 - 7 AVENUE S.W., CALGARY 2, ALB



COMPUTER DATA PROCESSORS LTD.

550 - 6th AVENUE SOUTH WEST
CALGARY 1, ALBERTA • (403) 264-7980



LEGEND

- (1) SHELL CANADA
- (2) TENNECO, AMERADA & FRENCH PETROLEUM
- (3) AMOCO & IMPERIAL OIL
- (4) AMOCO
- (5) MOBIL OIL CANADA
- (6) TRIAD & BP
- (7) HOG & FINA
- (8) GULF CANADA
- (9) ELF OIL CANADA
- (10) TEXACO EXPLORATION
- (11) SIEBENS OIL & GAS
- (12) TRANSALTA EXPLORATION
- (13) SIEBENS & TRANSALTA
- (14) RESERVE OIL & GAS
- (15) CHEVRON STANDARD
- (16) CANADIAN HOMESTEAD
- (17) CANADA TRUST
- (18) TROY OILS
- (19) WESTERN LAND
- (20) WESTPHALISCALTA & PETROL
- (21) WESTPHALISCALTA & PETROL
- (22) CANADIAN INDUSTRIAL GAS & OIL
- (23) SHENANDOAH
- (24) VOYAGER PETROLEUM
- (25) ANDEX OIL
- (26) BARAMY INVESTMENT
- (27) BOSELL MINERALS LTD.
- (28) J. F. LEMIEUX
- (29) JEFFERSON LAKE PETROCHEMICALS
- (30) ANCO EXPLORATION
- (31) RANGE OIL
- (32) CENTRAL-DEL RIO OIL
- (33) NEW ASSOCIATED DEVELOPMENTS
- (34) TRUDEL MINERALS
- (35) MURPHY OIL ET AL
- (36) SYRACUSE OILS LIMITED
- (37) CANADIAN BONANZA
- (38) CANADIAN BONANZA
- (40) A. S. McLEAN
- (41) PADDON HUGHES DEVELOPMENT
- (42) DUNCAN OIL ET AL
- (43) J. E. MITCHELL
- (44) PRUDHOE BAY OILS
- (45) SUFFRAGE OF CANADA
- (46) BECO
- (47) SUCCESS OIL
- (48) BALLINDERRY EXPLORATION
- (49) NORTH AMERICAN ENERGY
- (50) J. F. LEMIEUX
- (51) HIGH COUNTRY MINERALS LTD.
- (52) CITIZENS PIPELINE LIMITED
- (53) MANULIFE PETROCHEMICALS
- (54) CUYER OIL COMPANY
- (55) STURDEON PETROLEUM
- (56) WHITE MINERALS
- (57) YELLOWKNIFE BEAR MINES
- (58) CHEVELLE EXPLORATION
- (60) ULSTER PETROLEUM
- (61) VOYAGER ET AL
- (62) HILTON OILS
- (63) HOUSTON OILS ET AL
- (64) INTER-ROCK OIL
- (65) NORTHERN OIL EXPLORERS & ANDEX OIL
- (66) CANADIAN SUPERIOR OIL
- (67) J. RAY McDERMOTT & GENERAL CRUDE
- (68) EASTERN CHARTERED TRUST
- (69) MONTREAL TRUST

PROPOSED AREAS FOR STUDY:
 A - THE SCOTIAN SHELF
 B - GRAND BANKS
 C - GULF OF ST. LAWRENCE
 D - LABRADOR COAST

BUDGETA. PROFESSIONAL FEES

The study will be fully mobilized by April 1st, 1971. This assumes that the last two weeks of March will be used for initial preparations. Total elapsed research time will be six months, requiring the final report to be presented by the end of September 1971. The draft will be ready by the end of August.

The proposed professional fee budget is as follows (see "Proposed Time Allocation"):

E.C. Siewwright	28 weeks @ \$ 1,000	\$ 28,000	
P.F.M. McLoughlin	26 weeks @ \$ 750	\$ 19,500	
J. McNicholas	28 weeks @ \$ 500	\$ 14,000	
C.G. Drayton	10 weeks @ \$ 800	<u>\$ 8,000</u>	\$ 69,500 (1)

(1) Includes salary, fringe benefits, overhead and profit. Also all back-up statistical and secretarial services.

B. OUT-OF-POCKET EXPENSESSIEVWRIGHT

<u>Travel</u>	10 trips to Ottawa	\$ 700	
	10 trips to Halifax (or equivalent)	\$1,320	
	Local travel in region	\$ 500	
	4 trips to Calgary	\$ 944	
	1 trip to London ⁽²⁾	\$ 506	
	1 trip to New York	\$ 94	
	2 trips to Montreal	<u>\$ 164</u>	\$ 4,228
<u>Subsistence</u>	Ottawa, 10 days		
	Halifax, 35 days		
	Calgary, 16 days		
	London, 5 days		
	New York, 4 days		
	Montreal, 2 days		
	Total 72 days @ \$30	<u>\$ 2,160</u>	\$ 6,388

(2) To study the numerous E.I.U. oil impact reports.

Expenses brought forward...\$ 6,388

McLOUGHLIN

<u>Travel</u>	10 trips Toronto/ Halifax equivalent	\$1,320		
	5 trips Toronto/ Ottawa	\$ 350		
	Local regional travel ex Fredericton	<u>\$1,000</u>	\$ 2,670	
<u>Subsistence</u>	40 days @ \$30		<u>\$ 1,200</u>	\$ 3,870

DRAYTON

<u>Travel</u>	1 trip London/Toronto	\$ 506		
	3 trips Toronto/Halifax or equivalent	\$ 396		
	Local travel in region	<u>\$ 300</u>	\$ 1,202	
<u>Subsistence</u>	2-1/2 months @ \$550		<u>\$ 1,375</u>	\$ 2,577

McNICHOLAS

<u>Travel</u>	8 trips Toronto/Halifax or equivalent	\$1,056		
	Local travel in region	<u>\$ 500</u>	\$ 1,556	
<u>Subsistence</u>	40 days @ \$25		<u>\$ 1,000</u>	\$ 2,556

Long distance telephone calls, estimate			\$ 600	
---	--	--	--------	--

Printing, 25 copies of final report, estimate			<u>\$ 600</u>	
---	--	--	---------------	--

Total out-of-pocket Expenses			\$ 16,591	
------------------------------	--	--	-----------	--

Total Budget

Professional Fees	\$ 69,500
Out-of-pocket Expenses	<u>\$ 16,591</u>
	<u>\$ 86,091</u>

PROPOSED TIME ALLOCATION⁽¹⁾April 1st to September 30th, 1971 - 26 weeks

	<u>Siewwright</u>	<u>McLoughlin</u>	<u>McNicholas</u>	<u>Drayton</u>	<u>Total</u>
<u>PHASE I</u>					
Section 1	2	-	-	1	3
2	2	2	2	-	6
3	-	2	2	-	4
4	-	2	2	-	4
5	-	2	2	-	4
6	-	2	2	-	4
7	2	-	2	-	4
8	-	2	2	-	4
9	<u>1</u>	<u>2</u>	<u>2</u>	-	<u>5</u>
Sub-total	<u>7</u>	<u>14</u>	<u>16</u>	<u>1</u>	<u>38</u> Man-Weeks
<u>PHASE II</u>					
Section 1	1	-	-	-	1
2	2	-	-	2	4
3	1	-	2	1	4
4	3	-	-	2	5
5	1	2	1	-	4
6	1	-	2	-	3
7	2	-	-	2	4
8	-	2	1	-	3
9	-	2	1	-	3
10	2	2	2	-	6
11	-	<u>1</u>	<u>1</u>	-	<u>2</u>
Sub-total	<u>13</u>	<u>9</u>	<u>10</u>	<u>7</u>	<u>39</u> Man-Weeks
Total	20	23	26	8	77 Man-Weeks
Mobilisation (March)	2	-	2	-	4
Report Writing	4	3	-	2	9
Administration & Client Liaison	<u>2</u>	-	-	-	<u>2</u>
Total	<u>28</u>	<u>26</u>	<u>28</u>	<u>10</u>	<u>92</u> Man-Weeks

(1) See Chronogram below.

CHRONOGRAM (1)ATLANTIC REGION OFFSHORE DRILLING IMPACT STUDYMARCH - SEPTEMBER 1971

Week	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14	#15	#16	#17	#18	#19	#20	#21	#22	#23	#24	#25	#26	#27	#28	#29
S			I-1	I-1	II-1	I-2	I-2	II-2	II-2	II-3	II-4	II-4	II-4	II-7	II-7		II-6	I-7	I-7	II-5	I-9	Drafting		II-10	II-10	Report			
McL			I-6	I-6	II-9	II-9	I-2	I-2	I-4	I-4	I-3	I-3	I-8	I-8	II-8	II-8	I-5	I-5	II-5	II-5	I-9	I-9	II-11	II-10	II-10	Report			
McN	I-7	I-7	I-6	I-6	II-3	II-9	I-2	I-2	I-4	I-4	I-3	I-3	I-8	I-8	II-8	I-5	I-5	II-3	II-6	II-5	I-9	I-9	II-11	II-6	II-10	II-10			
D			I-1					II-2	II-2	II-3	II-4	II-4	II-7	II-7												Report			

Siewright
 McLoughlin
 McNicholas
 Drayton

(1) See Study Outline, pages 1-6.



CANADA

The Honorable the Treasury Board
L'honorable Conseil du Trésor

704067
T.B. Number - C.T. No

REGIONAL ECONOMIC EXPANSION

Department - Ministère

File - Dossier

April 6, 1971

Date

SUBJECT: Study of the Impact on the Regional Economy of Eastern Canada Resulting from the Potential Development of Offshore Oil and Gas.

PROPOSAL: To authorize the Department of Regional Economic Expansion to enter into an agreement with the Economist Intelligence Unit Canada Limited, whereby the firm undertakes to conduct:

- (a) A study of the economic effects that are presently being felt in the Atlantic Region as a result of offshore oil and gas exploration activity and the anticipated economic effects of future exploration activity in the event of it increasing, remaining static or declining.
- (b) A study of the economic effects on the Atlantic Region that would result from various possible levels of production of both oil and/or gas from the offshore area.

COST: \$100,000.00, of which the Department of Regional Economic Expansion will pay 50% and the Department of Energy, Mines and Resources will pay 50%.

CHARGEABLE TO: VOTE. 1



APPROVED BY THE TREASURY BOARD
APPROUVÉ PAR LE CONSEIL DU TRÉSOR

Certified to be a true copy of a Minute of a Meeting of the Treasury Board on

20 V 71

Date

Copie conforme d'un extrait du procès-verbal d'une réunion du Conseil du Trésor le

Secretary - Secrétaire

Rec'd. from T.B.

MAY 25 1971

Copy to: ORIGINATOR
FINANCIAL CONTROL
SUBJECT FILE
P.C. or T.B. file

REMARKS:

1) Eastern Canada is almost totally dependent upon imports for its oil and gas needs. The geological environment offshore of the Atlantic Provinces has been recognized as being favourable for the occurrence of both oil and natural gas. A number of companies have already embarked upon extensive exploration programs, some of which entail drilling. Non-commercial shows of both oil and gas have been encountered in some of the holes drilled.

2) Although there can be no assurance of finding commercially viable oil and/or gas resources in the offshore area, the level of present and planned activity indicates that the petroleum industry views the area favourably.

3) The study will provide an indispensable data source for use in the departmental planning function. It will also provide a framework that will be of assistance to federal, provincial and municipal governments in preparing for the economic and social adjustments that will be needed to meet the challenges and opportunities of a potentially dynamic new industrial base in the Atlantic Region. All studies and analyses will reflect the present stance of the Federal Government regarding offshore resources.

4) This is a joint study to be undertaken on behalf of the Departments of Regional Economic Expansion and Energy, Mines and Resources. At the invitation of the above Departments, the Department of Finance and the Department of Industry, Trade and Commerce will also participate in monitoring the study.

REMARKS: (continued)

5) The study is to be administered by a steering group of six members, of whom two are from the Department of Regional Economic Expansion, two are from the Department of Energy, Mines and Resources and one each from the Departments of Finance and Industry, Trade and Commerce.

6) The steering group invited five consulting companies to a briefing session to introduce the project on February 8th, 1971.

7) All companies attended, and all submitted proposals. The consultants' names, total costs and professional man days allocated in each proposal were as follows: Canadian Bechtel Limited \$282,000 and 1203 man days, Economic Intelligence Unit, Canada Ltd., \$86,091 and 460 man days, Foster Economic Consultants Ltd., \$153,385 and 463 man days, Arthur D. Little of Canada Limited, \$130,000 and 420 man days, Management Analysis Center, Incorporated, \$131,397 and 325 man days.

8) After meetings on 11th, 19th and 22nd March 1971 at which the steering group evaluated proposals, the Economist Intelligence Unit was selected to perform the study.

9) Additional work requested by the steering group involving an addition to the study staff and other associated costs will necessitate expenditures over and above those proposed in the original submission, raising the total cost of the study to \$100,000. The proposal still remains as the lowest cost submission.

10) The contract will take six months to complete. An interim report will be presented after approximately two months. The consultant will meet with the steering group once per month. The final report will be reviewed by the steering group. Twenty-five copies of the final report will be presented.

