

SPECIAL REPORT

CANADIAN GEOPHYSICAL ACTIVITY, 1975†

B. B E R G *

The C.S.E.G. Statistical Committee was constituted in December 1973. It was organized because of increasing pressures from within and without the Society to gather and provide information of a statistical nature relative to Canadian geophysical industry activity. Data was collected mainly through mailing of questionnaires to companies, government agencies and universities. Questionnaires were kept as simple as possible to encourage good response. Missing data were estimated by committee members, using whatever methods available to them in order to keep the reports as factual as possible. In most areas excellent response has been achieved; in others it is less than satisfactory.

Since the time of its formation, the committee has been called upon to gather information and to furnish reports on several facets of industry activity which in turn have been released or presented to governments, industry and the public.

The major functions of the Committee in 1975 included (1) a 1974 annual survey of Canadian geophysical expenditures, number and type of employees involved in Geophysics and number of employees which left Canada in 1974, (2) a monthly survey of all Canadian geophysical contractors of actual crew activity and (3) a semi-annual survey of seismic contractors of crew availability.

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1974 ANNUAL SURVEY

This survey included not only petroleum Geophysics but also mining, research and education Geophysics. Of the 488 organizations surveyed the response averaged out at 282 or 58% and can be summarized as shown in table 1. In order to avoid duplication of Geophysical expenditures, only operators (i.e., oil/mineral companies and institutes/agencies) were canvassed. The results for 1973 and 1974 are shown in table 2. All industry, governments and universities were surveyed to determine the number of people involved in Canadian geophysics, the results of which are shown in table 3.

Personnel involvement in the entire Geophysical industry across Canada is estimated to be 6969 for 1974. Even though some classifications had a poor response, those service organizations as felt by the committee to be predominant in Geophysical activity were contacted by telephone if their questionnaires had not been returned. The 1972 and 1973 data for Construction and Trucking were revised to better compare with the more complete data obtained for 1974. Because of the low percentage of replies, the data for Drilling and Suppliers is considered unreliable.

TABLE 1. 1974 SURVEY RESPONSE

<u>Type Organization</u>	<u>Total No. of Questionnaires</u>		<u>% Response</u>
	<u>Mailed</u>	<u>/ Returned</u>	
Oil/Mineral Companies	144	78	54%
Institutes/Agencies	58	25	43%
Data Acquisition	45	33	73%
Contractors	46	41	89%
Consultants	11	5	45%
Data Processing	150	44	29%
Suppliers	62	14	23%
Drilling	41	34	83%
Construction	19	17	89%
Trucking	—	—	—
TOTALS	488	282	58%

TABLE 2. CANADIAN GEOPHYSICAL EXPENDITURES 1973-1974 (MILLIONS OF DOLLARS)

	<u>1973</u>	<u>1974</u>
Oil, Mineral Companies	154.3	160.0
Institutes, Universities & Government Agencies	13.1	17.5
	167.4	177.5

TABLE 3. CANADIAN GEOPHYSICAL PERSONNEL — 1972, 1973, 1974

<u>Type of Organization</u>	<u>No's of Co's Surveyed</u>	<u>Technical & Professional Personnel</u>			<u>Left Canada in 1974</u>
		<u>As of December 31</u>			
		<u>1972</u>	<u>1973</u>	<u>1974</u>	
Oil, Gas & Mining Companies	144	900	967	1010	50
Government Agencies	58	416	435	460	1
Geophysical Data Processors	11	291	294	458	12
Consultants	46	139	175	144	3
Acquisition Contractors	45	2486	2440	1839	100
Construction	41	318	320	305	7
Drilling	62	1519	1338	1100	7
Trucking	19	402	410	357	1
Suppliers	150	1383	1443	1286	5
		7854	7822	6969	186

TABLE 4. ACTUAL GEOPHYSICAL CREW ACTIVITY — 1975 (CREW-MONTHS)

<u>Seismic</u>	<u>Jan.</u>	<u>Feb.</u>	<u>Mar.</u>	<u>Apr.</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Oct.</u>	<u>Nov.</u>	<u>Dec.</u>	<u>Total</u>
Alberta	21.5	23.75	22.25	0.25	7.0	11	12.5	14.75	17.0	17.0	16.0	24.5	187.5
British Columbia	2.75	1.75	1	0	0	0	0.5	1.0	0	0	0.75	2.5	10.25
Manitoba	0	0	0	0	0	0	0	0	0	0	0	0	0
N. Canada	9.25	14.0	22.5	16.25	8.75	0.5	2.5	3.0	2.25	2.0	1.75	0.5	83.25
Saskatchewan	0	0	0	0	.25	1.0	1.0	1.5	1.5	2.0	1.0	1.0	9.25
E. Canada	1.0	1.0	1.0	.25	1.5	3.0	6.0	6.0	3.0	3.0	0	0.5	26.25
TOTAL	34.5	40.5	46.75	16.75	17.5	15.5	22.5	26.25	23.75	24.0	19.5	29.0	316.5
<u>Gravity</u>													
Alberta	1.75	1.0	0	1.0	1.5	1.0	1.0	1.0	0	0	0	0	0
British Columbia	0	0	0	0	0	0	0	0	0	0	0	0	0
Manitoba	0	0	0	0	0	0	0	0	0	0	0	0	0
N. Canada	0	0.5	1.5	0.75	0.75	1.0	1.75	1.5	1.5	2.0	1.0	0.5	10.25
Saskatchewan	0	0	1.0	0.75	0	1.5	2.0	2.0	2.0	2.25	0.5	0.5	13.25
E. Canada	1.0	1.25	1.5	1.25	1.0	1.75	2.25	0.5	0.5	0.5	0	0.5	10.25
TOTAL	2.75	2.75	4.0	3.75	3.25	5.25	7.0	0.5	0.5	0.5	0.5	0.5	26.25
<u>Other</u>													
Alberta	0	0	0	0	0	1.0	0	1.0	0	0	0	0	2.0
British Columbia	0	0	0	0	0	0	0	1.25	0	0	0	0	1.25
Manitoba	0	1.0	2.0	0.75	0	0	0	0	0	0	0	0	3.75
N. Canada	0	0	0	0.75	0.25	1.75	3.25	3.5	3.5	3.5	0	0	23.25
Saskatchewan	0	0	0	0	0	0	0	0	0	0	0	0	0
E. Canada	1.0	2.0	1.0	0.5	0.25	2.25	2.5	3.5	3.5	3.5	0	0.5	26.25
TOTAL	1.0	3.0	3.0	2.0	0.5	5.0	5.75	9.25	9.25	9.25	0	0.5	50.0

TABLE 5. CREW AVAILABILITY

	<u>Nov.73</u>	<u>Mar. 74</u>	<u>May 74</u>	<u>Nov. 74</u>	<u>Mar 75</u>	<u>May 75</u>	<u>Nov. 75</u>
Seismic Crews Available	77	72	36	58	61	53	58
Seismic Crews Working	32	67	23	29	48	18	24
Seismic Crews Idle	45	0	8	7	13	35	34
Seismic Crews Moving or Moved from Canada	0	3	30	17 est.	3	8	0
Seismic Crews Returned or Returning to Canada	0	0	0	0	0	1	2
Instruments Moving or Moved from Canada	0	2	6	0	0	0	1
Specialized Crews Mobilized	0	0	0	5	0	0	2

MONTHLY GEOPHYSICAL CREW ACTIVITY SURVEY

This survey was initiated by the committee in 1975 in order to better monitor the actual activity of all types of Canadian geophysical crews including seismic, gravity and other (i.e. magnetic, E. M. and radio metric). Since this type of data prior to 1975 was estimated from the Daily Oil Bulletin, no direct comparison figures are available for previous years. It is the intent of the Committee to continue this survey and the direct comparisons will be published in future years. However, estimates made from the D.O.B. crew count indicate 1975 actual activity to be down 23% from 1974 and 33% from 1973.

All parts of Canada show this decline with the exception of Alberta, where seismic activity for 1975 remained at 1974 levels which can be attributed in part to Alberta's geophysical incentive grants. The monthly breakdown by Province of all geophysical crews for 1975 is shown in table 4. Due to the Canada Post Office strike, survey results from Eastern Canadian contractors for September, October, November and December have not yet been received and total figures for gravity and other are not available at this time.

SEMI-ANNUAL CREW AVAILABILITY SURVEY

Starting in late 1973 first APEGGA and later the CSEG Government Relations Committee has conducted at approximately 6 months interval a survey of all Calgary based seismic contractors in regards to crews available, crews working and crews leaving and being returned to Canada. The results of this survey are summarized in table 5. The present supply of crews is reduced to 58, down 25% from the same period in 1973 (1974 counts are considered unreliable) and down 52% from the 120 which were working during the late 1960.

ACKNOWLEDGMENTS

The compilation of the above figures was possible only through the co-operation of oil and mineral companies, contractors, suppliers, government agencies, and universities. The statistics committee on behalf of the C.S.E.G. thanks all of the individuals who responded to the various questionnaires with a special thanks to those who took the time to fully answer all questions and provide details of their geophysical activity. The committee welcomes comments and constructive suggestions on improvements in compiling data, estimating missing data and the general format of the report.