

Appendix "A"

116-C-7 P.

**Report on**  
**SPHERE DEVELOPMENT CORPORATION LTD.**  
**Clinton and Cassiar Creek Asbestos areas**  
**Yukon Territory**

**ALRAE EXPLORATION LTD.**

**December, 1967**

TO PROTECT OUR CLIENTS, THE PUBLIC AND OURSELVES, ALL REPORTS ARE SUBMITTED AS THE CONFIDENTIAL PROPERTY OF CLIENTS AND AUTHORIZATION FOR PUBLICATION OF STATEMENTS, CONCLUSIONS AND EXTRACTS FROM OUR REPORTS MUST RECEIVE OUR WRITTEN APPROVAL.

## TABLE OF CONTENTS

	PAGE
SUMMARY	1
INTRODUCTION	1
PROPERTY	2
LOCATION AND ACCESS	3
TOPOGRAPHY AND VEGETATION	3
HISTORY	3
GENERAL GEOLOGY	4
CONCLUSIONS & RECOMMENDATIONS	4
COST ESTIMATES	5

TO PROTECT OUR CLIENTS, THE PUBLIC AND OURSELVES, ALL REPORTS ARE SUBMITTED AS THE CONFIDENTIAL PROPERTY OF CLIENTS AND AUTHORIZATION FOR PUBLICATION OF STATEMENTS, CONCLUSIONS AND EXTRACTS FROM OUR REPORTS MUST RECEIVE OUR WRITTEN APPROVAL.

**SUMMARY:**

- (i) Sphere Development Corporation controls 168 claims by location and option in Dawson Mining Division, Yukon Territory.
- (ii) Chrysotile asbestos has been located on the claims and on the Caley option; 1,000,000 tons of Group 4 fibre has been outlined.
- (iii) Airborne magnetic surveys were conducted over all claims in 1967 by Geo-X Surveys Ltd.
- (iv) An initial program of ground follow-up magnetometer surveys is recommended based on the airborne survey results.
- (v) Detailed prospecting in conjunction with geological mapping is recommended for the anomalous areas.
- (vi) Cost estimate for the initial program is \$44,500.

**INTRODUCTION:**

Sphere Development Corporation Ltd., 846 West Hastings Street, Vancouver, acquired by location 138 claims in five groups and, by option, 30 claims in one group, known as the Caley Option, all in Dawson Mining Division, Yukon Territory. Reconnaissance prospecting and geo-physical surveys have indicated serpentine masses under each of the groups and chrysotile asbestos has been located on three groups.

The information in this report is based on a detailed study of published and unpublished reports relating to the area of the claims, and, on data collected by Alrae Exploration Ltd. under whose supervision Sphere's work has been conducted.

PROPERTY:

The property presently held by Sphere consists of the following groups and claims:

		<u>CLAIMS</u>	<u>RECORD NOS.</u>
(i)	Caley Option	Jo 1 - 8 inclusive	15100 - 15107 incl.
		Leslie 1 - 8 "	15116 - 15123 "
		Ida 1 - 8 "	15108 - 15115 "
(ii)	Ton Group	Ton 1 - 8 "	87737 - 87744 "
		Ton 9 - 15 "	87558 - 87664 "
(iii)	Chin and Clin grp.	Chin 1 - 8 "	87538 - 87645 "
		Chin 9	87586
		Clin 1 - 8 "	87530 - 87537 "
(iv)	Mon Group	Mon 1 - 8 "	87646 - 87653 "
		Mon 9 - 12 "	87717 - 87720 "
(v)	W. C. Group	W. C. 1 - 8 "	87638 - 87645 "
		W. C. 9 - 16 "	87681 - 87688 "
		W. C. 17 - 32 "	87609 - 87624 "
		W. C. 33 - 40 "	87630 - 87637 "
		W. C. 41 - 45 "	87625 - 87629 "
(vi)	Big, Gib and East Group	East 1 - 8 "	87705 - 87712 "
		Gib 1 - 8 "	87587 - 87594 "
		Gib 9, 10	87595, 87596
		Gib 11 - 18 "	87597 - 87604 "
		Gib 19 - 22 "	87605 - 87608 "
		Big 1 - 8 "	87689 - 87696 "
		Big 9 - 11 "	87697 - 87699 "
		Big 13, 14	87700, 87701
		Big 15, 16	87702, 87703
Big 17 - 20 "	87713 - 87716 "		

TO PROTECT OUR CLIENTS, THE PUBLIC AND OURSELVES, ALL REPORTS ARE SUBMITTED AS THE CONFIDENTIAL PROPERTY OF CLIENTS AND AUTHORIZATION FOR PUBLICATION OF STATEMENTS, CONCLUSIONS AND EXTRACTS FROM OUR REPORTS MUST RECEIVE OUR WRITTEN APPROVAL

LOCATION AND ACCESS:

The claim groups are located in the Clinton Creek - Yukon River area of the Yukon Territory and are included in the Dawson Mining Division. The Caley Option and the W. C. group are approximately 25 miles northwest of Dawson City and both can be reached by existing roads from Sixtymile Road or from the Yukon River. Short access roads from the Clinton Creek mine, 18 miles northwest of the Caley Option, would be required to reach the remaining groups. All-weather roads service both Dawson City and Clinton Creek, and commercial airline facilities at Dawson and a private airstrip at Clinton Creek make air service to the area possible.

TOPOGRAPHY AND VEGETATION:

Except for the steep stream valleys the topography is one of gentle, rolling hills with elevations ranging from 1,000 feet to 4,000 feet. Local relief is seldom more than 600 feet. In the stream valleys and on the south and west slopes forest cover of spruce and pine is found to an elevation of 3,200 feet. Only sparse, stunted vegetation exists above tree line.

HISTORY:

The group of claims known as the Caley Option was staked by F. Caley and associates in 1956 and optioned to Cassiar Asbestos Corporation in 1959. Before terminating their agreement, Cassiar drove two adits for a total length of 1,180 feet, and did considerable surface trenching. Canadian Johns-Manville optioned the property in 1963 and carried out geological,

magnetic and barometric surveys, plus 2,000 feet of diamond drilling and 9,000 feet of surface stripping. One million tons of medium to high grade Group 4 milling asbestos fibre have been outlined to-date.

After acquiring the Caley claims and conducting preliminary geological and magnetic surveys, Sphere staked 5 separate claim groups consisting of 138 claims. In 1967 airborne magnetometer surveys were completed on each group.

#### GENERAL GEOLOGY:

Because of extensive overburden outcrops are scarce and the geological picture is quite incomplete. In general a thick series of metosediments, consisting of schists, gneisses, quartzites, and crystalline limestones, contains bodies of serpentized ultrabasic rocks which exist either as stocks or sills. There is insufficient information to accurately define the structural relationships between these ultrabasics and the sediments. Granodiorite and quartz-monzonite outcrops have also been located.

Chrysotile asbestos is found in dunite and peridotite and, magnetite is usually concentrated along the asbestos veins.

#### RECOMMENDATIONS:

Based on the results of the airborne magnetic survey and the recommendations of the contractor, Geo-X Surveys Ltd., the following programs are suggested for each group:

(i) CALEY OPTION

A ground magnetometer survey over anomalies G - 1, G - 2, G - 3, and G - 4 for a total of 15 line-miles.

(ii) TON GROUP

A ground magnetometer survey of anomaly B - 1 for a total of 3 line-miles.

(iii) CHIN AND CLIN GROUP

A ground magnetometer survey of anomalies C - 1, C - 2, And C - 3 for a total of 15 line-miles.

(iv) MON GROUP

A ground magnetometer survey of anomalies D - 1, D - 2, D - 3 and D - 4 for a total of 15 line-miles.

(v) W. C. GROUP

A ground magnetometer survey of anomalies E - 1, E - 2, E - 3 and E - 4 for a total of 10 line-miles.

(vi) BIG, GIB AND EAST GROUP

A ground magnetometer survey of anomalies F - 1, F - 2, F - 3, F - 4 and F - 5 for a total of 12 line-miles.

In addition to the magnetic survey each anomalous area should be thoroughly prospected and geologically mapped. Any further work will depend on the results of this program and provisions should be made for diamond drilling and surface stripping as required.

COST ESTIMATES:

(a) The estimated expenditures for the preliminary program are as follows:

Magnetometer surveys:	
70 line-miles @ \$200 (including line-cutting)	\$14,000
Detailed prospecting and geological mapping	4,000

Transportation	\$ 4,000
Camp and labour	7,500
Bulldozer for stripping and road work	10,000
Supervision	2,000
Contingencies	<u>3,000</u>
Total	\$44,500

(b) Any additional work based on a program of 5,000 feet of diamond drilling would be estimated to cost as follows:

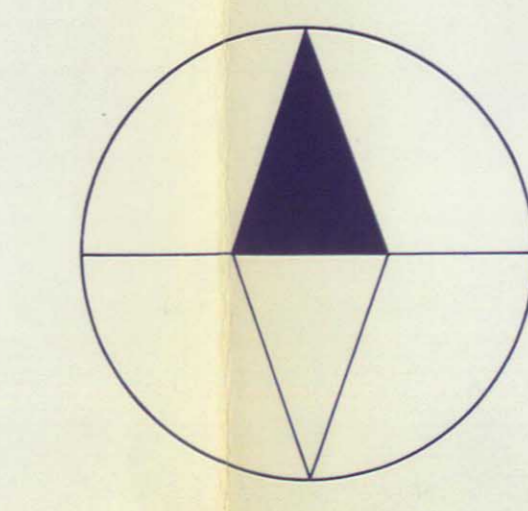
Diamond drilling	
- based on 5,000 feet @ \$18/per foot	\$90,000
Bulldozer for stripping and wood work	10,000
Transportation, camp supplies etc.	10,000
Supervision	3,000
Camp and Labour	10,000
Contingencies	<u>7,000</u>
	\$130,000

Respectfully submitted,

  
D. L. McKelvie, P. Eng.

64°30' 140°45'

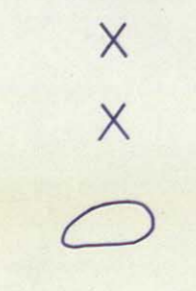
140°00' 64°30'



PROPERTY HOLDINGS  
DAWSON MINING DISTRICT  
YUKON TERRITORY

MILES 0 1 2 3  
DRAWN M.R.L. NOVEMBER 1966

- LEGEND
- Indicated Serpentine Belt
  - Serpentine Outcrop
  - Asbestos Occurrence
  - Anomalous Zones
  - Geo-X Aeromagnetic Survey



UNITED STATES OF AMERICA  
YUKON

14°00'

140°00'