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E & N 606
Iron

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REPORT ON

EXPLORATION FOR IRON ORE
(Near Ladysmith, B.C.)

LADYSMITH DEVELOPMENT LTD.

A. F. Buckham.
December, 1953.

PROPERTY FILE

PROPERTY FILE

92B029-07

EN. 114

PROPERTY FILE

R E P O R T

Q N

EXPLORATION FOR IRON ORE

O N

PROPERTY IN COWICHAN LAKE DISTRICT, V. I.,

HELD BY LADYSMITH DEVELOPMENT LTD.

UNDER

AGREEMENT OF MAY 14th, 1953, WITH THE

ESQUIMALT & NANAIMO RAILWAY COMPANY.

DECEMBER, 1953.

A. F. Buckham,
Geologist, Ladysmith Development Ltd.

1. Introduction.

This report gives a summary of the results of exploration work done on occurrences of iron ore in the 1030-acre parcel of land in the vicinity of Block 51, ~~Cowichan~~ Lake District, granted the Ladysmith Development Ltd. by the E. & N. Railway Co. by agreement dated May 14th, 1953. The data herein contained, including logs of diamond^{drill} holes, and estimates of tonnage and iron content, were furnished Ladysmith Development Ltd. by Martin E. Broan, who supervised the exploration for them during the 1953 field season.

2. Surveys.

A grid system was laid out in the area with one axis paralleling the longer dimension of the main ore bodies, and the other axis at right angles to this. The lines of the grid system paralleling the ore bodies were lettered, and the lines at right angles to this numbered. A combination of number plus letter serves to pin point any spot within the area of the grid. Such combinations, based on the location of the collar of each hole, have been used to designate the diamond drill holes.

The grid was laid off by transit, distances being determined by a combination of stadia and chaining. Elevations were determined by stadia, on the corners of a 50-foot grid near and over the deposits, and at more widely scattered intervals elsewhere. Datum was assumed but is believed to be within 100 feet or so of its true elevation.

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3. Maps.

Two maps are included with this report and it would be well to refer to these at this time. Map "A" shows on the right hand side a location map that locates the holdings of Ladysmith Development Ltd. on Vancouver Island with respect to tidewater shipping, the cities of Ladysmith, Duncan, Nanaimo, Victoria, Vancouver, etc. In addition the area covered by a 20 mile radius from the proposed pier site is shown. This area contains other deposits of iron ore that could be developed economically by use of the facilities proposed for the pier site location.

The cross hatched area on the location map locates the section covered in the more detailed map on the left side of the sheet. This shows the area on which Ladysmith Development Ltd. has leased the iron ore rights under the Mining Agreement, and the ^{outlined zone} locations of the explored ore bodies ^{A-B-C} on this property. The access road between the property and the pier site is shown. This road and the surface rights on the property are owned by the Comox Logging and Railway Company. Other ore deposits, discovered, located and surface explored, that are in the area covered by this map are also shown. For purpose of discrimination the deposits in this area have been called Ore Deposits Lady "A", "Lady "B", Lady "C", and Lady "D".

Map "B" shows the three Ore Bodies A-B-C explored by test drilling on ore deposit Lady "A" and the location of drilled holes. Two sections through the deposit, with the ore areas cross hatched, are included.

Two "drawings" are also included. Each gives a plan and longitudinal and transverse cross-sections, from which the tonnage computations have been made, -- Drawing "A" for Ore Body "A", and Drawing "B" for Ore Body "C".

4. Test Drilling.

The test drilling was done by Boyles Bros. Drilling Company of Vancouver under contract to Ladysmith Development Ltd. A Boyles Bros. Model BBS-1 drill was used with AX rods and AX diamond core bits. Drilling was started on Wednesday May 27, 1953 and continued on a two shift basis until Saturday Sept. 5, 1953. Twenty holes of varying depth were drilled, 12 of these were on Ore Body "A", 4 on Ore Body "B" and 4 on Ore Body "C" for a total footage of 2280.5 feet of hole.

The core recovered from the drilling was placed in core trays, carefully logged and marked for location, depth, core recovery percentage and visual grade of magnetic iron. It was proposed that the cores should then be split and one half of the split core sent to G.S. Eldridge & Co., Vancouver, for assay of iron content. This portion of the program has not yet reached the stage where Broan has submitted assay results to the Ladysmith Development Ltd., and therefore iron content of many of the drill holes is based on Broan's eye estimate. The other half of the split core is preserved for visual examination. The split core was taken in five foot sections per sample assayed so that an accurate record of the grade of the material in place as it would be mined and sent to the mill is available.

The logged information of the holes is shown on the following sheets numbered L-1 to L-36.

Diamond Drill Hole Log

Property	Lady "A"	Hole No.	88 ↓ 25 E	Dip	- 0°
Ore Body	"C"	Drilled	8/14/53 to 5/8/53		
Drill	BSS - 1	Core	AX		

Depth	Elevation	Interval	Core	Fe Visual %	Fe Assay %	Material
0	2076.6					
5	"	5.0	5.0	10		Magn. †
10	"	5.0	5.0	10		"
15	"	5.0	5.0	10		"
20	"	5.0	5.0	10		"
25	"	5.0	4.2	10		"
30	"	5.0	4.5	10		"
35	"	5.0	4.3	10		"
40	"	5.0	4.7	10		"
45	"	5.0	4.7	10		"
50	"	5.0	4.6	10		"
55	"	5.0	4.2	10		"
60	"	5.0	3.8	10		"
65	"	5.0	2.9	10		"
70	"	5.0	2.1	10		"
75	"	5.0	2.0	15		"
80	"	5.0	2.8	0		Rock Barren

Diamond Drill Hole Log

Property	Lady "A"	Hole No. 88 + 25 -E 2	Dip -60°
Ore Body	"C"	Drilled 8/10/53 to 8/19/53	
Drill	BBS-1	Core	AX

Depth	Elevation	Interval	Core	Fe Visual %	Fe Assay %	Material
0	2073.8		(cased + 3.0)			Magn. +
		5.0	5.0	10		"
5		5.0	0.8	10		"
10		5.0	0.8	10		"
15		5.0	1.0	10		"
20		5.0	1.2	10		"
25	2058.0	5.0	2.0	15		"
30		5.0	5.0	15		"
35	2050.0	5.0	5.0	20		"
40		5.0	5.0	25		"
45	2041.0	5.0	5.0	50		"
50		5.0	0.9	50		"
55		5.0	1.5	50		"
60		5.0	3.1	50		"
65		5.0	3.0	50		"
70		5.0	5.0	50		"
75		5.0	5.0	50		"
80	2011.0					

Diamond Drill Hole Log

Property	Lady "A"	Hole No. 88 + 25 -E2	Dip -60°
Ore Body	"C"	Drilled 8/10/53 to 8/19/53	
Drill	BBS - 1	CCore	AX

Depth 'Elevation 'Interval 'Core ' Fe Visual % ' Fe Assay % ' Material

Depth	Elevation	Interval	Core	Fe Visual %	Fe Assay %	Material
80	2011.0					
		5.0	5.0	45		Magn. +
85		5.0	5.0	45		"
90		5.0	5.0	45		"
95		5.0	5.0	45		"
100		5.0	5.0	45		"
105		5.0	5.0	45		"
110		5.0	5.0	45		"
115	1981.0	5.0	5.0	50		"
120		5.0	5.0	50		"
125	1972.0	5.0	5.0	30		"
130		5.0	5.0	10		"
135		5.0	5.0	15		"
140	1959.0	5.0	5.0	20		"
145		5.0	5.0	20		"
150		5.0	5.0	20		"
155		5.0	5.0	20		"
160		5.0	5.0	20		"

Diamond Drill Hole Log

Property	Lady "A"	Hole No.	88 # 25-E 2	Dip - 60°
Ore Body	"C"	Drilled	8/10/53 to 8/19/53	
Drill	BES - 1	Core	AX	

Depth	Elevation	Interval	Core	Fe Visual %	Fe Assay %	Material
160						
165	1937.0	5.0	5.0	20		Magn. ↓
170		5.0	5.0	25		"
175		5.0	5.0	40		"
180	1925.0	5.0	5.0	40		"
185		5.0	5.0	15		"
190		5.0	5.0	15		"
195		5.0	5.0	15		"
197	1909.0	2.0	2.0	15		"
			Bottom of Hole			

Diamond Drill Hole Log

Property	Lady "A"	Hole No. 89 + 50 -E	Dip 0°
Ore Body	"C"	Drilled 8/21/53 to 8/27/53	
Drill	BBS - 1	Core	AX

Depth	Elevation	Interval	Core	Fe Visual %	Fe Assay %	Material
0	2062.0					
5	"	5.0	5.0	15		Magn. ↓
10	"	5.0	4.0	20		"
15	"	5.0	3.8	20		"
20	"	5.0	4.5	20		"
25	"	5.0	4.5	20		"
30	"	5.0	4.0	15		"
35	"	5.0	3.8	15		"
40	"	5.0	3.8	15		"
45	"	5.0	4.2	20		"
50	"	5.0	4.3	30		"
55	"	5.0	3.4	25		"
60	"	5.0	4.8	30		"
65	"	5.0	5.0	25		"
70	"	5.0	5.0	10		"
75	"	5.0	5.0	20		"
80	"	5.0	5.0	10		"

Diamond Drill Hole Log

Property	'Lady "A"	Hole No. 89 + 50 - E	Dip - 0°
Ore Body	"C"	Drilled 8/21/53 to 8/27/53	
Drill	BBS - 1	Core	AX

Depth	Elevation	Interval	Core	Fe Visual %	Fe Assay %	Material
80	2062.0					
		5.0	5.0	10		Magn. #1
85	"	5.0	5.0	10		"
90	"	5.0	4.0	10		"
95	"	5.0	5.0	10		"
100	"	5.0	3.8	10		"
105	"	5.0	3.7	10		"
110	"	5.0	3.9	10		"
115	"	2.0	1.0	10		"
117	"		Bottom of Hole			

Diamond Drill Hole Log

Property	'Lady "A"	Hole No. 39 + 50 -E-2	Dip-45°
Ore Body	"C"	Drilled 8/27/53 to 9/4/53	
Drill	BBS - 1	Core	AX

Depth	Elevation	Interval	Core	Fe Visual	Fe Assay %	Material
0	2060.0					
5		5.0	3.0	15		Magn. +
10		5.0	3.5	15		"
15		5.0	4.5	15		"
20		5.0	4.5	15		"
25		5.0	5.0	15		"
30		5.0	5.0	15		"
35		5.0	4.2	15		"
40		5.0	4.8	20		"
45		5.0	4.2	25		"
50		5.0	4.3	30		"
55		5.0	4.2	30		"
60		5.0	3.8	15		"
65		5.0	4.2	30		"
70		5.0	4.0	30		"
75		5.0	4.0	30		"
80		5.0	4.6	20		"

Diamond Drill Hole Log

Property	Lady "A"	Hole No.	89 + 50 -E-2	Dip	- 45°
Ore Body	"C"	Drilled	8/27/53 to 9/4/53		
Drill	BBS - 1	Core	AX		

Depth	Elevation	Interval	Core	Fe Visual %	Fe Assay %	Material
80						
		5.0	4.2	25		Magn. †
85		5.0	3.2	10		"
90		5.0	1.0	0		Greenstone
95		5.0	1.0	0		Greenstone
100		5.0	1.5	30		Magn. †
105		5.0	2.0	30		"
110		5.0	4.8	30		"
115		5.0	4.7	20		"
120		5.0	5.0	20		"
125		5.0	5.0	20		"
130		5.0	5.0	20		"
135		5.0	5.0	20		"
140		5.0	5.0	40		"
145		5.0	5.0	40		"
150		5.0	4.0	0		Rock
155		5.0	4.0	0		Rock
160						

Diamond Drill Hole Log

Property	'Lady "A"	'Hole No. 89 + 50 -E-2	'Dip - 45°
Ore Body	"C"	Drilled 8/27/53 to 9/4/53	
Drill	BBS - 1	Core	AX

Depth	Elevation	Interval	Core	'Fe Visual %	'Fe Assay %	Material
160		5.0	4.0	0		Magn. +
165		5.0	4.0	15		"
170		5.0	4.0	15		"
175		5.0	4.0	35		"
180		5.0	3.8	20		"
185		5.0	5.0	25		"
190		5.0	5.0	30		"
195		3.0	2.8	30		"
198						

Diamond Drill Hole Log

Property	'Lady "A"	'Hole No. 103 + 25 - G	'Dip - 90°
Ore Body	"A"	Drilled 7/4/53 to 7/7/53	
Drill	BBS - 1	Core AX	

Depth	Elevation	Interval	Core	'Fe Visual %	'Fe Assay %	Material	
0	1857						
		5.0	3.5	15		Magn. †	
5	1852						
		5.0	4.7	20		"	
10	1847						
		5.0	3.7	20		"	
15	1842						
		5.0	4.0	20		"	
20	1837						
		5.0	5.0	20		"	
25	1832						
		5.0	4.5	20		"	
30	1827						
		5.0	3.5	20		"	
35	1822						
		5.0	4.5	20		"	
40	1817						
		5.0	5.0	20		"	
45	1812						
		1.5	1.5	15		"	
46.5	1810.5					Contact Pt	
		7.5	7.5	0		Greenstone	
54	1803	Bottom Hole @ 54.0 ft.					

Diamond Drill Hole Log

Property	'Lady "A"	'Hole No. 103 + 25 -H	'Dip - 90°
Ore Body	"A"	Drilled 7/8/53 to 7/10/53	
Drill	BBS - 1	Core	AX

Depth	Elevation	Interval	Core	Fe Visual %	Fe Assay %	Material
0	1831					
		5.0		0		Rock Barren
5	1826					"
		5.0		0		"
10	1821					"
		5.0		0		"
15	1816					"
		5.0		0		"
20	1811					"
		5.0		0		"
25	1806					"
		5.0		0		"
30	1801					"
		5.0		0		"
35	1796					"
		5.0		0		"
40	1791					"
		5.0		0		"
45	1786					"
		5.0		0		"
50	1781					"
		5.0		0		"
55	1776					"
		5.0		0		"
60	1771					"
		5.0		0		"
65	1766					"
		5.0		0		"
70	1761					"
		5.0		0		"
75	1756					"
		5.0		0		"
80	1751					Rock

Diamond Drill Hole Log

Property	'Lady "A"	'Hole No. 103 + 25 - H	'Dip - 90°
Ore Body	"A"	Drilled 7/8/53 to 7/10/53	
Drill	BBS - 1	Core	AX

Depth	Elevation	Interval	Core	Fe Visual %	Fe Assay %	Material
80	1751					
		5.0		0		Rock Barren
85	1746			0		"
		5.0		0		"
90	1741			0		"
		5.0		0		"
95	1736			0		"
		5.0		0		"
100	1731					Rock Barren
		5.0	5.0	10		Magn. ↓
105	1726			20		"
		5.0	5.0	20		"
110	1721			30		"
		5.0	5.0	20		"
115	1716			20		"
		5.0	5.0	20		"
120	1711			20		"
		5.0	5.0	20		"
125	1706			20		"
		5.5	5.5	20		"
130.5	1700.5					Greenstone
		2.5				"
133	1698.0					"

Diamond Drill Hole Log

Property	'Lady "A"	'Hole No. 104 ↓ 00 - G	'Dip - 90°
Ore Body	"A"	Drilled 6/20/53 to 6/22/53	
Drill	BBS - 1	Core	AX

Depth	Elevation	Interval	Core	Fe Visual %	Fe Actual %	Material
0	1880.0					
		7.0	Cased	0		Alluvia
7.0	1873.0					
		1.5	0.5	0		Rock Barren
8.5	1871.5					
		1.5	1.5	25	27.2	Magn. ↓
10	1870.0					
		5.0	5.0	25	27.2	"
15	1865.0					
		5.0	5.0	25	27.2	"
20	1860.0					
		5.0	5.0	30	28.2	"
25	1855.0					
		5.0	5.0	30	28.2	"
30	1850.0					
		5.0	5.0	30	28.2	"
35	1845.0					
		5.0	5.0	30	26.3	"
40	1840.0					
		5.0	5.0	15	14.1	"
45	1835.0					
		5.0	5.0	20	19.2	"
50	1830.0					
		5.0	5.0	25	23.8	Magn. ↓
55	1825.0					
		1.0	1.0	0		Rock Barren
56	1824.0					
		4.0	4.0	25	27.8	Magn. ↓
60	1820.0					
		6.0	6.0	15	17.2	Magn. ↓
66	1814.0					
		8.0	8.0			Rock Barren
74	1806.0					
		Bottom of Hole				

Diamond Drill Hole Log

Property	'Lady "A"	'Hole No.	104 + 00 -G-2	Dip - 45°
Ore Body	"A"	Drilled	6/23/53 to 6/26/53	
Drill	BBS - 1	Core	AX	

Depth	Elevation	Interval	Core	'Fe Visual %	'Fe Assay %	Material
0	1880.0					
		5.0	5.0	25		Magn. +
5		5.0	5.0	25		"
10		5.0	5.0	25		"
15		5.0	5.0	30		"
20		5.0	5.0	20		"
25		5.0	5.0	20		"
30		5.0	5.0	20		"
35		5.0	5.0	20		"
40	1853.0	5.0	5.0	20		"
		5.0		0		Rock Barren
45		5.0		0		"
50		5.0		0		"
55		5.0		0		"
60		5.0		0		"
65		5.0		0		"
70		5.0		0		"
75		5.0		0		"
80		5.0		0		"

Diamond Drill Hole Log

Property	'Lady "A"	Hole No. 104 + 00 -G-2	Dip -45°
Ore Body	A	Drilled 6/23/53 to 6/26/53	
Drill	BBS - 1	Core	AX

Depth	Elevation	Interval	Core	Fe Visual %	Fe Assay %	Material
80		5.0	-	0		Rock Barren
85		5.0	-	0		"
90		5.0	-	0		"
95		5.0	-	0		"
100		5.0	-	0		"
105		5.0	-	0		"
110		5.0	-	0		"
115		5.0	-	0		"
120		5.0	-	0		"
125		5.0	-	0		"
130		5.0	-	0		"
135		5.0	-	0		"
140		5.0	-	0		"
145		5.0	-	0		"
150		5.0	-	0		"
155		5.0	-	0		"
160		5.0	-	0		"

Diamond Drill Hole Log

Property	'Lady "A"	'Hole No.	104 - G - 2	' Dip	-45°
Ore Body	"A"	Drilled	6/23/53 to 6/26/53		
Drill	BBS - 1	Core	AX		

Depth	Elevation	Interval	Core	Fe Visual %	Fe Assay %	Material
160		5.0	-	0		Rock Barren
165		5.0	-	0		"
170		5.0	-	0		"
175		5.0	-	0		"
180		5.0	-	0		"
185		1.5	-	0		"
186.5	1748.0					Bottom of Hole

Diamond Drill Hole Log

Property	'Lady "A"	'Hole No.	104 + 00 - H	'Dip - 90°
Ore Body	"A"	Drilled	6/27/53 to 7/3/53	
Drill	BBS - 1	Core	AX	

Depth	Elevation	Interval	Core	Fe Visual %	Fe Assay %	Material
0	1855.0					
3	1852.0	3.0	Cased	0		Alluvial
		2.0	-	0		Rock
						Barren
5	1850.0	5.0	-	0		"
10	1845.0	5.0	-	0		"
15	1840.0	5.0	-	0		"
20	1835.0	5.0	-	0		"
25	1830.0	5.0	-	0		"
30	1825.0	5.0	-	0		"
35	1820	5.0	-	0		"
40	1815	5.0	-	0		"
45	1810	5.0	-	0		"
50	1805	5.0	-	0		"
55	1800	5.0	-	0		"
60	1795	5.0	-	0		"
65	1790	5.0	-	0		"
70	1785	5.0	-	0		"
75	1780	5.0	-	0		"

Diamond Drill Hole Log

Property	Lady "A"	Hole No. 104 4 00 - H	Dip - 90°
Ore Body	"A"	Drilled 6/27/53 to 7/3/53	
Drill	EBS - 1	Core AX	

Depth	Elevation	Interval	Core	Fe Visual %	Fe Assay %	Material
75	1780					
		5.0	-	0		Rock Barren
80	1775					
		5.0	-	0		" "
85	1770					
		5.0	-	0		" "
90	1765					
		5.0	-	0		" "
95	1760					
		5.0	-	0		" "
100	1755					
		3.5	-	0		" "
103.5	1751.5					Magn. ↓
		1.5	1.0	25		"
105	1750.0					
		5.0	4.2	30		"
110	1745					
		5.0	4.2	35		"
115	1740					
		5.0	4.2	30		"
120	1735					
		5.0	4.2	30		"
125	1730					
		5.0	5.0	30		"
130	1725					
		5.0	5.0	25		"
135	1720					
		2.5	2.5	15		"
137.5	1717.5					"
		2.5	2.0	0		Rock Barren
140	1715.0					
		6.0	5.8	0		" "
146	1709.0	Bottom of Hole				

Diamond Drill Hole Log

Property	Lady "A"	Hole No.	105 400 - H	Dip	- 90°
Ore Body	"A"	Drilled	6/15/53 to 6/19/53		
Drill	BBS - 1	Core	AK		

Depth	Elevation	Interval	Core	Fe Visual %	Fe Assay %	Material
0	1872.0					
		5.0	Cased	0		Alluvial
5	1867					
		5.0	Cased	0		Alluvial
10	1862					
		2.0	Cased	0		Alluvial
12	1860					
		3.0	-	0		Rock Barren
15	1857					
		5.0	-	0		" "
20	1850					
		5.0	-	0		" "
25	1845					
		5.0	-	0		" "
30	1845					
		5.0	-	0		" "
35	1845					
		5.0	-	0		" "
40	1840					
		5.0	-	0		" "
45	1835					
		5.0	-	0		" "
50	1830					
		5.0	-	0		" "
55	1825					
		5.0	-	0		" "
60	1820					
		5.0	-	0		" "
65	1815					
		5.0	-	0		" "
70	1810					
		5.0	-	0		" "
75	1805					

Diamond Drill Hole Log

Property	Lady "A"	Hole No.	105 & 00 - H	Dip - 90°
Ore Body	"A"	Drilled	6/15/53 to 6/19/53	
Drill	BBS - 1	Core	AI	

Depth	Elevation	Interval	Core	% Visual	% Assay	Material	
75	1805					Magn. ↓	
		5.0	5.0	25	25.4	"	
80	1800					"	
		5.0	5.0	30	25.4	"	
85	1795					"	
		5.0	5.0	25	25.4	"	
90	1790					"	
		5.0	5.0	15	12.9	"	
95	1785					"	
		5.0	5.0	15	12.9	"	
100	1780					"	
		5.0	5.0	15	12.9	"	
105	1775					"	
		1.0	1.0	15	12.9	"	
106	1774					Rock Barren	
		4.0	4.0	0	-	"	
110	1770					"	
		6.0	6.0	0	-	"	
116	1764	Bottom of Hole					"

Diamond Drill Hole Log

Property	'Lady "A"	Hole No. 105 4 00 - F	Dip - 90°
Core Body	"A"	Drilled 6/1/53 to 6/4/53	
Drill	BBB - 1	Core	AX

Depth	Elevation	Interval	Core	Fe Visual %	Fe Assay	Material
0	1897					
		5.0	Cased	0		Alluvial
5	1892					
		3.0	"	0		"
8	1889					Rock Barren
		2.0	2.0	0		" "
10	1887					
		5.0	5.0	0		" "
15	1882					
		5.0	5.0	0		" "
20	1877					
		5.0	5.0	0		" "
25	1872					
		5.0	5.0	0		" "
30	1867					
		5.0	5.0	0		" "
35	1862					
		5.0	5.0	0		" "
40	1857					
		5.0	5.0	0		" "
45	1852					
		5.0	5.0	0		" "
50	1847					
		5.0	5.0	0		" "
55	1842					
		5.0	5.0	0		" "
60	1837					
		5.0	5.0	0		" "
65	1832					
		5.0	5.0	0		" "
70	1827					
		6.0	6.0	0		" "
76	1821		Bottom of Hole			

Diamond Drill Hole Log

Property Ore Body Drill	Lady "A" "A" BBS - 1	Hole No. 105 & 50 G Drilled 5/27/53 to 5/30/53 Core AK	Dip - 90°
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Depth	Elevation	Interval	Core	Fe Visual %	Fe Assay %	Material
0	1903					
1.5	1901.5	1.5	Cased	25		Alluvial
5.0	1898.0	3.5	2.8	25		Magn. ♯
10	1893	5.0	4.2	20		"
15	1888	5.0	4.3	25		"
20	1883	5.0	5.0	25		"
25	1878	5.0	5.0	25		"
30	1873	5.0	4.7	20		"
35	1868	5.0	4.7	20		"
40	1863	5.0	4.6	20		"
45	1858	5.0	4.3	15		"
47	1856	2.0	2.0	15		"
50	1853	3.0	-	0		Rock Barren
55	1848	5.0	-	0		" "
60	1843	5.0	-	0		" "
65	1838	5.0	-	0		" "
70	1833	5.0	-	0		" "

Diamond Drill Hole Log

Property	'Lady "A"	Hole No. 105 & 70 - 8	Dip - 90°
Gr. Body	"A"	Drilled 5/27/53 to 5/30/53	
Drill	BBS - 1	Core	JK

Depth	Elevation	Interval	Core	% Visual	% Assay	Material
70	1833					
		5.0	-	0		Rock Barren
75	1828					
		5.0	-	0		" "
80	1823					
		5.0	-	0		" "
85	1818					
		5.0	-	0		" "
90	1813					
		5.0	-	0		" "
95	1808					
		4.0	-	0		" "
99	1804	Bottom of Hole				

Diamond Drill Hole Log

Property	Lady "A"	Hole No. 105 & 50 - 0 - 2	Dip - 60° to
Ore Body	A	Drilled 6/5/53 to 6/11/53	105 & 00 - H
Drill	BHS - 1	Core AX	

Depth	Elevation	Interval	Core	Fe Visual %	Fe Assay %	Material
0	1903.0					
5		5.0	4.0	20	18.4	Magn. &
10		5.0	2.1	20	18.4	"
15		5.0	4.6	20	18.4	"
20		5.0	5.0	20	16.8	"
25	1881.5	5.0	5.0	15	16.8	"
30		5.0	5.0	15	16.8	"
35		5.0	5.0	15	25.0	"
40		5.0	4.7	20	25.0	"
45		5.0	4.3	20	25.0	"
50	1860.0	5.0	4.4	15	16.9	"
55		5.0	5.0	15	16.9	"
60		5.0	4.8	15	16.9	"
65		5.0	5.0	15	12.8	"
70		5.0	5.0	15	12.8	"
75	1838.2	5.0	4.8	15	12.8	"
80		5.0	5.0	10	11.1	"

Diamond Drill Hole Log

Property	'Lady "A"	Hole No.	105 + 50 - G - 2	Dip	- 60 to
Ore Body	"A"	Drilled	6/5/53 to 6/11/53		105 + 00 -H
Drill	BBS - 1	Core	AX		

Depth	Elevation	Interval	Core	Fe Visual %	Fe assay %	Material
80						
		5.0	5.0	10	11.1	Magn. †
85		5.0	5.0	10	11.1	"
90		5.0	5.0	20	17.9	"
95		5.0	5.0	20	17.9	"
100	1816.8	5.0	4.8	20	17.9	"
105		5.0	4.9	15	10.7	"
110		5.0	4.7	15	10.7	"
115		5.0	4.7	15	10.7	"
120		5.0	4.2	15	10.7	"
125	1795.5	1.5	1.5	15	10.7	"
126.5	1794.0	3.5	3.5	0		Rock Barren
130		5.3	5.0	0		" "
135.3	1786.0	4.7	4.7	10	8.0	Magn. †
140		5.0	4.7	10	8.0	"
145		10.0	10.0	10	14.9	"
155	1769.2	12.0	12.0	0		Rock Barren
167	1762.0					

Diamond Drill Hole Log

Property	Lady "A"	Hole No. 105 # 50 - 0 - 3	Dip - 45° - S
Ore Body	"A"	Drilled 6/12/53 to 6/14/53	
Drill	BBS - 1	Core AX	

Depth	Elevation	Interval	Core	Fe Visual %	Fe Assay %	Material
0	1903.0					
		5.0	Cased	25		Magn. †
5		1.5	"	25		"
6.5		3.5	3.5	25		"
10	1896.0	5.0	4.6	20		"
15		5.0	5.0	20		"
20		5.0	4.6	15		"
25	1885.5	5.0	4.0	15		"
30		1.0	1.0	15		"
31	1881.2	2.0	1.6	0		Rock Barren
33	1880.0	Bottom of Hole				

Diamond Drill Hole Log

Property	'Lady "A"	'Hole No. 106 + 00 - G	Dip -90°
Ore Body	"A"	Drilled 7/16/53 to 7/18/53	
Drill	HBS - 1	Core AX	

Depth	Elevation	Interval	Core	Fe Visual %	Fe Assay %	Material
0	1906.0					
		5.0	Cased	0		Alluvial
5	1901.0					"
		4.0	Cased	0		"
9	1897.0					
		1.0	1.0	15		Magn. Ⓞ
10	1896.0					"
		5.0	5.0	15		"
15	1891.0					"
		2.0	2.0	15		"
17	1889.0					
		3.0	-	0		Barren Rock
20	1886.0					"
		5.0	-	0		"
25	1881.0					"
		5.0	-	0		"
30	1876.0					"
		5.0	-	0		"
35	1871.0					"
		5.0	-	0		"
40	1866.0					"
		5.0	-	0		"
45	1861.0					"
		5.0	-	0		"
50	1857.0					"
		3.0	-	0		"
53	1854.0	Bottom of Hole				

Diamond Drill Hole Log

Property	Lady "A"	Hole No. 106 + 00 - H	Dip - 90°
Ore Body	"A"	Drilled 7/11/53 to 7/15/53	
Drill	BBS - 1	Core AX	

Depth	Elevation	Interval	Core	Fe Visual %	Fe Assay %	Material
0	1896.2	5.0		0		Alluvial
5	1891.2	5.0		0		"
10	1886.2	5.0		0		"
15	1881.2	5.0		0		"
20	1876.2	5.0		0		Rock Barren
25	1871.2	5.0		0		"
30	1866.2	5.0		0		"
35	1861.2	5.0		0		"
40	1856.2	5.0		0		"
45	1851.2	5.0		0		"
50	1846.2	5.0		0		"
55	1841.2	5.0		0		"
60	1836.2	5.0		0		"
65	1831.2	5.0	5.0	20		Magn. +
70	1826.2	5.0	4.9	35		"
75	1821.2	5.0	5.0	35		"
80	1816.2					

Diamond Drill Hole Log

Property	Lady "A"	Hole No. 106 & 00 - H	Dip - 90°
Ore Body	"A"	Drilled 7/11/53 to 7/15/53	
Drill	HSS - 1	Core AX	

Depth	Elevation	Interval	Core	Fe Visual %	Fe Assay %	Material
80	1816.2					
		5.0	4.8	35		Magn. ⚡
85	1811.2	5.0	5.0	35		"
90	1806.2	5.0	5.0	35		"
95	1801.2	5.0	5.0	30		"
100	1796.2	5.0	5.0	30		"
105	1791.2	5.0	5.0	30		"
110	1786.2	5.0	5.0	25		"
115	1781.2	5.0	5.0	20		"
120	1776.2	5.0	5.0	20		"
125	1771.2	5.0	5.0	20		"
130	1766.2	5.0	5.0	15		Magn. ⚡
135	1761.2	5.0	5.0	0		Rock Barre
140	1756.2	1.0	1.0	0		"
141	1755.2	Bottom of Hole				

Diamond Drill Hole Log

Property	'Lady "A"	'Hole No. 108 + 00 - H	'Dip - 90°
Ore Body	-	Drilled 7/20/53 to 7/22/53	
Drill	BBS - 1	Core	AX

Depth	Elevation	Interval	Core	'Fe Visual %	'Fe Assay %	Material
0	1919.0	5.0	Cased	0		Alluvial
5	1914.0	5.0	Cased	0		"
10	1909.0	5.0	-	0		Rock Barr.
15	1904.0	5.0	-	0		"
20	1899.0	5.0	-	0		"
25	1894.0	5.0	-	0		"
30	1889.0	5.0	-	0		"
35	1884.0	5.0	-	0		"
40	1879.0	5.0	-	0		"
45	1874.0	5.0	-	0		"
50	1869.0	5.0	-	0		"
55	1864.0	5.0	-	0		"
60	1859.0	5.0	-	0		"
65	1854.0	5.0	-	0		"
70	1849.0	5.0	-	0		"
75	1844.0	5.0	-	0		"
80	1839.0	5.0	-	0		"

Diamond Drill Hole Log

Property	'Lady "A"	Hole No. 108 + 00 -H	Dip - 90°
Ore Body	-	Drilled 7/20/53 to 7/22/53	
Drill	BBS - 1	Core	AX

Depth	Elevation	Interval	Core	Fe Visual %	Fe Assay %	Material
80	1839.0			0		
		5.0	-	0		Rock Bar
85	1834.0			0		"
		5.0	-	0		"
90	1829.0			0		"
		5.0	-	0		"
95	1824.0			0		"
		5.0	-	0		"
100	1819.0			0		"
		5.0	-	0		"
105	1814.0			0		"
		5.0	-	0		"
110	1809.0			0		"
		5.0	-	0		"
115	1804.0	Bottom of Hole				

Diamond Drill Hole Log

Property	Lady "A"	Hole No. 112 + 00 - G	Dip - 90°
Ore Body	"B"	Drilled 7/23/53 to 7/28/53	
Drill	BBS - 1	Core	AX

Depth	Elevation	Interval	Core	Fe Visual %	Fe Assay %	Material
0	2013.8					
		5.0	Cased	0		Alluvial
5	2008.8					
		5.0	"	0		"
10	2003.8					
		5.0	-	0		Rock Barr.
15	1998.8					
		5.0	-	0		"
20	1993.8					
		5.0	-	0		"
25	1988.8					
		5.0	-	0		"
30	1983.8					
		5.0	-	0		"
35	1978.8					
		5.0	-	0		"
40	1973.8					
		5.0	-	0		"
45	1968.8					
		5.0	-	0		"
50	1963.8					
		5.0	-	0		"
55	1958.8					
		5.0	-	0		"
60	1953.8					
		5.0	-	0		"
65	1948.8					
		5.0	-	0		"
70	1943.8					
		5.0	-	0		"
75	1938.8					
		5.0	-	0		"
80	1933.8					

Diamond Drill Hole Log

Property	Lady "A"	Hole No. 112 + 00 - G	Dip - 90°
Ore Body	"B"	Drilled 7/23/53 to 7/28/53	
Drill	BBS - 1	Core	AX

Depth	Elevation	Interval	Core	Fe Visual %	Fe Assay %	(Material)
80	1933.8	5.0	-	0		Rock Barren
85	1928.8	5.0	-	0		"
90	1923.8	5.0	-	0		"
95	1918.8	5.0	-	0		"
100	1913.8	5.0	-	0		"
105	1908.8	5.0	-	0		"
110	1903.8	5.0	-	0		"
115	1898.8	5.0	-	0		"
120	1893.8	5.0	-	0		"
125	1888.8	5.0	-	0		"
130	1883.8	5.0	-	0		"
135	1878.8	5.0	-	0		"
140	1873.8	Bottom of Hole				"

Diamond Drill Hole Log

Property	'Lady "A"	'Hole No. 111 + 50 - F + 50 -1	Dip -55°
Ore Body	"B"	Drilled 7/29/53 - 7/30/53	
Drill	EBS - 1	Core	AX

Depth	Elevation	Interval	Core	Fe Visual %	Fe Assay %	Material	
0							
		5.0	5.0	20		Magn. †	
5		5.0	5.0	20		"	
10		5.0	3.6	20		"	
15		5.0	3.4	15		"	
20		5.0	3.0	15		"	
25		5.0	3.5	20		"	
30		4.0	2.5	15		"	
34		2.0	2.0	0		Rock Barren	
36		Bottom of Hole					

Diamond Drill Hole Log

Property	'Lady "A"	'Hole No. 111 + 50 - F450 - 2	' Dip - 60°
Ore Body	"B"	Drilled 7/30/53 to 7/31/53	
Drill	BBS - 1	Core	AX

Depth	Elevation	Interval	Core	'Fe Visual	'Fe Assay %	Material
0	2020.6					
5		5.0	4.2	20		Magn. +
10	2011.8	5.0	4.1	20		"
15		5.0	3.0	20		"
20	2030.0	5.0	3.2	20		"
25		5.0	4.3	15		"
30	1994.0	5.0	4.4	15		"
35		5.0	4.8	15		"
38		3.0	3.0	15		"
		3.0	3.0	0		Rock Barren
41	1984.7					
		Bottom of Hole				

5. Quantity of Ore in Place.

Inspection of the property prior to test drilling was only on Ore Body "A" and it was believed that this was a mound of ore similar in shape to the Iron River deposit and from this belief preliminary quantities were derived. The first hole drilled at Sta. 105 + 50 - G disproved this thinking and resulted in necessary changes in the planned drilling program. As the exploration progressed it became obvious that Ore Body "A" did not contain sufficient raw ore in place to warrant the expenditure to put it into production. In the meantime Ore Bodies "B" and "C" had been discovered and were consequently explored by drilling. The exploration to completion was carried out on Ore Body "A", Ore Body "B" was found to be a small blob of ore that has not been considered into the picture at all. The four holes put into Ore Body "C" showed it to be of fair size.

Using information derived from surface surveys made and from the logged drill holes, plans of the ore bodies were drawn and computations made of the outlined quantities of raw ore in place. In the case of Ore Body "A" the drilled holes outlined the ore body to its ultimate limits and the quantity shown is believed to be the ultimate quantity but with Ore Body "C" the holes were not carried to the limits of the ore and this body could quite readily increase in quantity of ore in place.

Drawing "A" shows the outlined plan and longitudinal and cross sections of Ore Body "A" from which computations of quantity were made. Drawing "B" shows the outlined plan and longitudinal and cross sections of Ore Body "C" from which computations of quantity were made.

Areas of the various cross-sections of the ore bodies were determined by the "Double End Area" method, the small figures at the corners of ore sections in drawings "A" and "B" being the co-ordinates used for the purpose. Tonnages were then computed by averaging the area of adjacent sections and multiplying by the distance between sections. A cubic yard of ore in place is taken as weighing 2.8 long tons. Calculations were not carried beyond slide rule accuracy, since sufficient variation from regularity is found in the deposits to make further extension of the data unwarranted.

Sheets Q-1 and Q-2 show the summary of computed quantity of raw ore in place for Ore Bodies "A" and "C" respectively. Inspection of the sections in Drawings "A" and "B" show this is not the same as mineable ore. Obviously in Ore Body "A", which pinches out, it would not be economic to strip several scores of feet of rock to mine the last foot of ore. The limits to which the ore can be mined are economic rather than physical, and as such can only be estimated with reference to some specified system of mining, milling, and transportation. It is the opinion of the Directors of the Ladysmith Development Ltd., that insufficient information is at present available to attempt such an estimate.

QUANTITY COMPUTATION

PROPERTY - LADY "A"			ONE BODY - "A"			
Station	End Area	∑ End Area	Dist- ance	Cu.Ft.	Cu.Yds.	Long Tons
101 + 25	0					
		100	25	2500	90	250
101 + 50	200	400	50	20000	740	2070
102 + 00	600	2000	50	100000	3700	10750
102 + 50	3400	4000	50	200000	7400	20700
103 + 00	4600	5800	50	290000	10730	30100
103 + 50	7000	8225	50	411250	15250	42600
104 + 00	9450	9175	50	458750	17000	47600
104 + 50	8900	8600	50	430000	15910	44600
105 + 00	8300	9325	50	466250	17300	48500
105 + 50	10350	12800	50	640000	23700	66400
106 + 00	15250	8125	50	406250	15070	42100
106 + 50	1000	500	50	25000	930	2600
106 + 75	0					
					127820	358270

QUANTITY COMPUTATION

PROPERTY - LADY "A"				ORE BODY - "C"		
Station	End Area	Σ End Area	Dist- ance	Cu.Ft.	Cu.Yds.	Long Tons
86 + 00	60,850	56,750	50	2,837,500	105,000	294,000
86 + 50	52,650	54,200	50	2,710,000	100,200	281,500
87 + 00	55,750	53,875	50	2,698,750	99,800	279,000
87 + 50	52,000	51,750	50	2,587,500	96,200	269,000
88 + 00	51,500	53,050	50	2,652,500	98,300	275,000
88 + 50	54,600	50,550	50	2,527,750	93,700	262,000
89 + 00	46,500	42,812	50	2,140,600	79,400	222,000
89 + 50	39,125	35,938	50	1,796,900	66,600	186,200
90 + 00	32,750	28,750	50	1,437,500	53,200	149,000
90 + 50	24,750	21,425	50	1,071,250	39,700	111,000
91 + 00	18,100	14,550	50	727,500	26,900	75,400
91 + 50	11,000	8,300	50	415,000	15,350	43,000
92 + 00	5,600	3,300	50	165,000	6,120	17,150
92 + 50	1,000	500	50	25,000	930	2,650
93 + 00	0					
				880,400	2,466,900	

6. Grade of Ore.

Broan states he considers the visual analysis of the cores to be within 1% to 2% of the chemical analysis. The visual analysis was determined for each 5 foot length of core and a weighted average computed from this giving the average grade of the complete hole. This average grade for each hole was applied to the portion of the total tonnage which is considered to have been sampled by that hole and the average grade for the entire body computed by weighted analyses. Results are given on sheet R-1, which is Broan's calculation, and is based on a strict mathematical application of the foregoing procedure. Attention should, however, be drawn to the data upon which this is based. Study of drawings "A" and "B" shows that while Ore Body "A" has been adequately drilled, it contains only 13.2% of the total tonnage established. Ore Body "C", on the other hand, containing 86.8% of the total tonnage, has been tested by only four diamond drill holes, amounting to 29.3% of the total footage drilled. This was deliberate, since at the completion of these four holes it was evident that a very large tonnage of low-grade ore had been proved. It was considered advisable to wait until it had been established that ore of this grade could be worked profitably before drilling more holes in Ore Body "C".

However, this introduces a further problem. It happens that one of the holes drilled in Ore Body "C", No. 88 + 25E-2(-60°) comprising 29.4% of the footage drilled in this body, is so situated as to govern 46.5% of the estimated tonnage in this body. The grade of this hole is appreciably higher than that of the

other three. The tonnage and grade figures given in the preceding
table^(R-1) follow Broan's estimate. Broan has carried this through on
an exact mathematical basis. The writer is in doubt whether this
represents best engineering practice, and whether there is not a
certain element of "freakishness" in this high-grade hole. Many
Canadian engineers would, until further drilling had disproved
this suspicion, use the average grade as determined by all holes
drilled on this ore body. This is 20.00%. On this basis the
tonnage remains unchanged but the average grade of Ore Body "C"
drops to 18.24% Fe, and of the whole deposit to 19.15% Fe, as is
shown on sheet R-2. In the writer's opinion, this is a closer
representation of the true grade than the figures given by
Broan.

SUMMARY SHEET

GRADE OF ORE

ORE BODIES "A" & "C"

*Broan's
Estimate*

Station	Raw Ore in place Long Tons	Grade % Fe	Iron Content Long Tons
<u>Ore Body "C"</u>			
86 † 00 above El. 2080 89 † 00	388,200	9.52	36,957
86 † 00 below El. 2080 89 † 00	1,102,300	30.55	336,753
89 † 00 above El. 2060 93 † 00	67,600	16.40	11,086
89 † 00 below El. 2060 93 † 00	808,800	20.18	163,216
Total	2,366,900 ✓	23.15	548,012
<u>Ore Body "A"</u>			
101 † 25	63,870	19.55	12,487
103 † 50	92,200	25.70	23,695
104 † 50	93,100	21.00	19,551
105 † 50	111,100	31.41	34,897
106 † 75			
Total	360,270 ✓	25.16	90,630
Ore Body "C"	2,366,900	23.15	548,012
Ore Body "A"	360,270	25.16	90,630
Grand Total	2,727,170 ✓	23.42 ✓	638,642 ✓

SUMMARY SHEET

- 47 -

GRADE OF ORE

ORE BODIES "A" & "C"

*Buckham's
Estimate*

Station	Raw Ore in place Long Tons	Grade % Fe	Iron Content Long Tons
<u>Ore Body "C"</u>			
86 ± 00 above El. 2080 89 ± 00	388,200	9.52	36,957
86 ± 00 below El. 2080 89 ± 00	1,102,300	20.00	220,460
89 ± 00 above El. 2060 93 ± 00	67,600	16.40	11,086
89 ± 00 below El. 2060 93 ± 00	808,800	20.18	163,216
Total	2,366,900	18.24	431,719
<u>Ore Body "A"</u>			
101 ± 25	63,870	19.55	12,487
103 ± 50	92,200	25.70	23,695
104 ± 50	93,100	21.00	19,551
105 ± 50	111,100	31.41	34,897
106 ± 75			
Total	360,270	25.16	90,630
Ore Body "C"	2,366,900	18.24	431,719
Ore Body "A"	<u>360,270</u>	25.16	<u>90,630</u>
Grand Total	2,727,170	19.15 ✓	522,349

7. Conclusions.

As a result of the exploration carried out by the Ladysmith Development Ltd. on the property held by them under the Agreement of May 14th, 1953 from the E. & N. Railway Co., a fairly large tonnage of low grade iron ore has been proven. An estimate based on conservative engineering practice is a total of 2,700,000 tons at 19.15% Fe. A somewhat more optimistic treatment of the same data gives the same tonnage at 23.42% Fe. This tonnage figure is for ore proven in place. It is known that not all of this is ore which may be mined at a profit but at the present stage of the exploration it is not possible to estimate what tonnage can be mined at a profit.

A. F. Buckham

A. F. Buckham,
Geologist, Ladysmith Development
Ltd.

92 B/13W
92 B/NW-29, 33

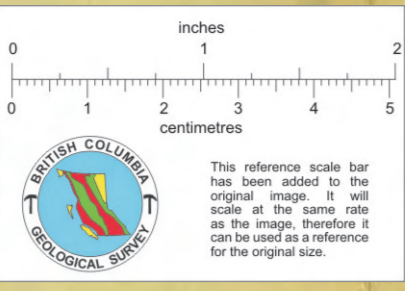
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PROPERTY FILE

LADYSMITH DEVELOPMENT LTD.

MAP "A"

Scale 1" = 1/4 Mile
9/53 M.E.B.



Location Map
Scale 1" = 4 miles

49° 00'

49° 00'

49° 00'

48° 55'

48° 55'

48° 55'

123°-55'

123°-50'

123°-45'

124°-00'

124°-30'

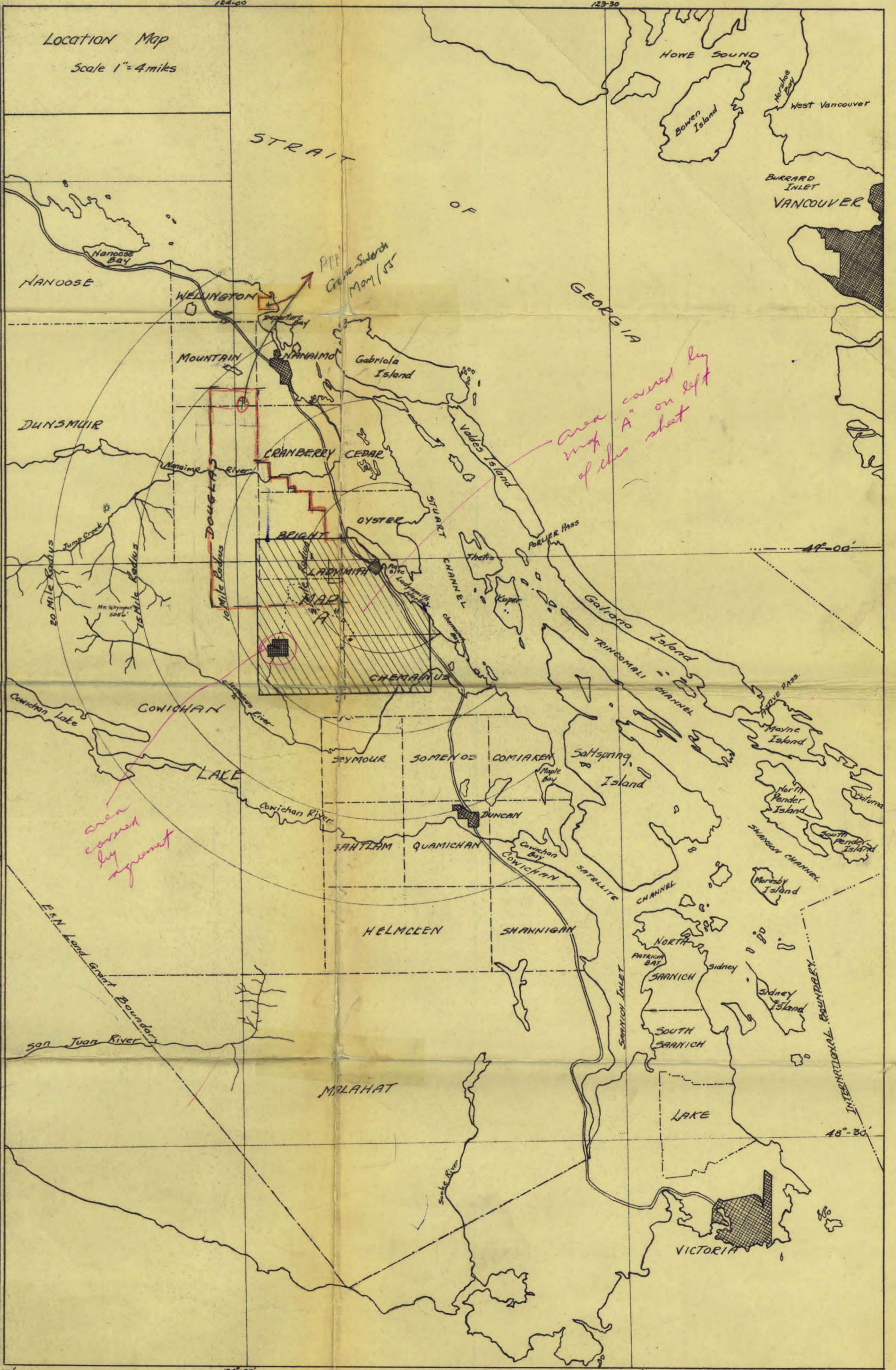
123°-55'

123°-50'

123°-45'

124°-00'

124°-30'



area covered by map "A" on left of this sheet

area covered by adjacent

MAP A