Lockeport 884980

REPORT ON THE LOCKEPORT PROSPECT MORESBY ISLAND, QUEEN CHARLOTTE ISLANDS

MINERAL CLAIMS: LOCKEPORT ONE, LOCKEPORT TWO, LOCKEPORT THREE, LOCKEPORT FOUR SKEENA MINING DIVISION

LATITUDE 52° 43' N LONGITUDE 131° 53' W

NTS 103B/12W

Prepared for: FOUNDATION RESOURCES LTD.

bу

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INTRODUCTION

FOUNDATION RESOURCES LTD. acquired four mineral claims (72 units) covering a known gold prospect on Moresby Island, Queen Charlotte Islands in early 1987. The writer was involved with the prospecting that led to the discovery of the original property (now expired) and was actively engaged in ongoing exploration as described below. Much of the following report is extracted from assessment reports prepared by the writer on the original property that are on file with the Department of Energy, Mines and Petroleum Resources.

Potential for gold mineralization was first recognized in April 1979 when analyses of stream sediment samples collected from the drainages above the head of Crescent Inlet were anomalous for arsenic and two were slightly anomalous for gold. Arsenic is a common "pathfinder" element used in exploring for gold and this relationship is extremely common on the Queen Charlotte Islands. Claims were staked and several stages of exploration followed with the main emphasis on mapping and geochemical sampling on a grid. All of this work was funded by Radcliffe Resources Ltd. (previously Majorem Minerals Ltd.) who held the property until 1986 when the claims expired. Radcliffe made the decision to allow the claims to lapse primarily because of lack of funds.

Two very large gold-arsenic soil anomalies and two other large arsenic anomalies with spotty gold were defined and were found to be coincident with Kunga Formation limy sediments preserved along a major fault system within older Karmutsen Formation greenstones. The sediments have been intruded by a dyke swarm varying in composition from gabbro to rhyolite.

Three gold showings were found, opened by blasting, mapped and sampled. All showings contain up to 20 percent pyrite-arsenopyrite with weak to pervasive silicification and occur adjacent to or within dacitic to rhyolitic dykes. Assays up to .268 oz/ton Au over 1.5 m are somewhat discontinuous in plan but indicate a good potential for developing ore grade material. One showing is a deeply leached completely silicified grey limestone (jasperoid) measuring 10-12 m wide by 80 m long with anomalous gold values to plus 5000 ppb Au. This showing is an indication that sizeable mineralized bodies exist on the property.

The writer reviewed the above data and made recommendations for a modest work programme in a report dated February 25, 1987. Three new showings were discovered as a result of work done subsequent to this report and are described below. This report reviews the mineral potential of the property based on previous reports and a visit to the property March 10, 1987 and recommends a work programme of trenching and diamond drilling budgeted at \$120,000.

LOCATION, ACCESS AND TOPOGRAPHY

The property is on Moresby Island, south of the head of Crescent Inlet, about 55 km south of Sandspit (Figure 1). A recently constructed logging road providing access to the northwest part of the property, runs along Tasu Sound, an all weather harbor on the west coast of Moresby Island, and connects with Sewell, a logging camp of Western Forest



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Fig. 1. PROPERTY LOCATION MAP

Products on the east coast of Moresby Island some 15 km north of the property. Sewell is supplied by barge from Vancouver and other parts of the Queen Charlottes.

Access to the property can be made by road from Sewell which can be reached by float plane from Sandspit. Helicopters are available in Sandspit with Queen Charlotte Helicopters or Vancouver Island Helicopters for direct access to the property. Sandspit has daily jet flights from Vancouver.

Elevations range from sea level to 550 m. Northerly trending ridges fall off to steep slopes which gradually moderate into valley bottoms.

Vegetation consists of mature hemlock-spruce-cedar forests with minor cypress-pine swamplands along ridge lines. Crescent Valley floor has been logged, probably about 40 years ago and the valley leading into Wilson Bay is about to be logged.

MINERAL CLAIMS

Four claims totalling 72 units were staked in late January 1987 by Mr. M. McClaren and Mr. J.T. Shearer. They are a restake of the original property owned by Radcliffe Resources Ltd. and tie onto the CRES-CENT claim group immediately north, as shown in Figure 2.

Following is a list of the claims and pertinent data as supplied by the Gold Commissioner's office, for Skeena Mining Division in Prince Rupert:

Claim Name	!	Units	Record No.	Record Date		Owner	Expiry Date	
LOCKEPORT	ONE	20	5825	Feb.	2/87	J.T. Shearer	Feb.	2/88
LOCKEPORT	TWO	20	5826	11	11	J.T. Shearer		11
LOCKEPORT	THREE	12	5827	11	н	M. McClaren	N.	н
LOCKEPORT	FOUR	20	5828	11	11	M. McClaren	н	н



Fig. 2. MINERAL CLAIM MAP

South Moresby Island is presently being considered as a park or wilderness area. The LOCKEPORT claims lie well north of the area being considered.

REGIONAL GOLD OCCURRENCES

From 1974 to 1976, the writer worked on the CINOLA deposit and since 1977, he has been involved in the prospecting for and acquisition of forty-one mineral properties on the Queen Charlotte Islands. Following is a summary of a few of the more significant properties of which the writer is aware (Figure 3).

- CINOLA: 40 million tons of .058 oz/ton Au including 6-9 million tons of .15 oz/ton occur in silicified late Tertiary sediments lying along the Sandspit Fault. Other properties adjacent to Sandspit Fault include a property being worked by COMINCO LTD. south of Sandspit.
- NORANDA : Noranda Exploration with Noramex Resources is working on five gold zones that are strung out along 15 km of a northwest trending fault. Grades up to 0.1 oz/ton Au over 3 m occur in drill holes.
- PLACER : Placer Development is working on a showing within silicified tuffaceous Tertiary Volcanics adjacent to a major fault. Best grades are 25 m of .142 oz/ton Au including 7 m of .558 oz/ton or 10 m of .381 oz/ton.
- J.C. STEPHENS: Property immediately north of LOCKEPORT has had about \$300,000 spent on it, funded by a syndicate of major mining companies.
- RADCLIFFE : Radcliffe Resources' HIGHGRADE property contains a fault zone cutting Karmutsen greenstones that have been mineralized over a strike length of 2000 m. Siliceous zones within the fault zone have returned numerous assays of .055 to .338 oz/ton Au over widths of 1 to 8 m. This fault is probably the same as or a strand of the major fault on the LOCKEPORT.



All of the above deposits are adjacent to major faults, have associated anomalous amounts of arsenic, antimony and mercury, and either well substantiated economic grades of gold mineralization or a good expectation of finding them. The LOCKEPORT Property lies along a major northwest trending fault with a large anomalous gold-arsenic soil pattern containing numerous showings with ore grade mineralization.

GEOLOGY

Karmutsen Formation greenstones are in fault contact with younger Kunga Formation lower massive grey limestones, middle flaggy black limestone and upper thin-bedded limy argillite (see Figure 4). Since Kunga sediments overlie Karmutsen greenstones the Kunga sediments are considered to have dropped along the faults into the Karmutsen country rock. The faults are predominantly northwest trending but north and westerly trending faults are also present. Occurrence of massive grey limestone and flaggy black limestone along the southwestern edge of the Kunga Formation fault block indicates less down dropping of the Kunga section in this area relative to Kunga exposures further northeast. (Figure 4)

Dykes of gabbroic, andesitic, diabasic, dacitic and rhyolitic composition cut Kunga rocks throughout the area of detailed mapping. Some of the mineralization and geochemical anomalies appear to be closely linked to the dacite rhyolite intrusions.

Rhyolite to dacite dykes contain 1-2% disseminated pyrite but higher sulfide zones (3-15%) occur in fracture zones or in contact zones of



these dykes. These zones are moderately to strongly anomalous in arsenic and are similar to the original three gold showings which are characterized by strong arsenopyrite-pyrite mineralization. These three showings occur in argillite, a dacite dyke and massive grey limestone, with abundant pyrite-arsenopyrite mineralization and with varying degrees of silicification, the most intense being the development of jasperoid within grey limestone at the most southerly showing.

Showings 1 and 2 are described in an assessment report by Mr. J.S. Christie and the writer dated August 3, 1983. At this time they are not considered as important a target as the others, although showing 1 includes an assay of .268 oz Au/T over 1.5 m.

Figure 5 is an interpretative cross section of the jasperoid occurrence at showing no. 3. Considerable vertical movement along near vertical faults is suggested by the rapid change of rock types across faults. The jasperoid body is exposed over a length of about 80 meters and a surface width of 10-12 meters and apparently trends northwesterly. Its southwestern boundary is a steeply dipping fault and outcrops of massive grey limestone lie to the northeast. The attitude and control of the jasperoid body is not apparent but is believed to be a steeply dipping body lying along the fault as shown in Figure 5. Gold values are erratic within the jasperoid but do range up to plus 5000 ppb Au. Intense surficial oxidation and leaching could have removed a considerable amount of gold. Previous trenching was unsuccessful in penetrating the leached zone and therefore diamond drilling is recommended below.

Three new showings were discovered during work performed in March and April 1987. Showings number 4 and 5 were mapped and sampled, as

shown in Figure 6. Notes on these samples were provided by Mr. J.T. Shearer and are given below:

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Sample No. oz/T ppb Width Remarks 6655 0.120 35 cm Aspy-py, no quartz veinlets 6656 0.002 50 cm Altered chlorite footwall 6657 0.006 30 cm Altered volcanic hanging wa 6658 0.752 Quartz vein material 6659 0.579 Quartz-aspy veinlets in flo 6660 0.108 14 cm 6661 0.168 50 cm 6607 1860 est 40 cm 6608 2570 est 40 cm 6609 5860 est 50 cm		GOI	٥		
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6610 5000 est 180 cm 6611 3780 est 30 cm 6667 0.084 grab	6655 6656 6658 6659 6660 6661 6607 6608 6609 6610 6611 6667	0.120 0.002 0.006 0.752 0.579 0.108 0.168	1860 2570 5860 5000 3780	35 cm 50 cm 30 cm 14 cm 50 cm est 40 cm est 40 cm est 50 cm est 180 cm est 30 cm	Aspy-py, no quartz veinlets Altered chlorite footwall Altered volcanic hanging wall Quartz vein material Quartz-aspy veinlets in float Siliceous, py-aspy Aspy-py
				31 45	

Showings 4 and 5 have limited strike length exposure but may represent sections of the same mineralized zone based on similar greenstone host rock, mineralogy and strike. Trenching the showings and along strike could be a cheap useful method of evaluating these showings.

Showing 6 is not a bedrock exposure but an area of abundant angular diorite porphyry float variably mineralized with pyrite-arsenopyrite and cut by numerous quartz and chalcedonic quartz veinlets. Four samples returned values of plus 10,000, 6420, 148 and 100 ppb Au. Considerable time was spent looking for a bedrock source of this float but the distribution of the float led the geologist to believe the source was covered by relatively thin overburden. Trenching is an obvious follow-up approach to locate the bedrock source.







Showings 4, 5, and 6 help to explain significant parts of the large gold geochemical anomaly at the northwest end of the geochemical anomaly, but not all of it. More showings probably exist beneath overburden in this area. Examination of ditches along the recently constructed roads indicate a basal till of unknown thickness overlain by slide debris. Total overburden thickness is probably less than 7 metres beneath much of the soil gold anomaly. Although this area is not presently being considered for additional exploration, trenching by backhoe or percussion drilling would be two possible means of evaluating this area.

GEOCHEMI STRY

Generalized geochemical data taken from Christie and Richards (1983) is presented in Figure 4. Plus 30 ppm arsenic in soils forms a 2500 m long by up to 800 m wide pattern that is aligned along the major northwest controlling fault system described above. Two other large anomalous arsenic patterns occur on the property further southeast but are not shown on Figure 4. Large zones of plus 100 ppm arsenic are present within the plus 30 ppm anomalies but are not shown on Figure 4. The large arsenic anomalies are developed principally over Kunga Formation limy sediments that have been intruded by numerous dykes and sills of gabbro to rhyolite composition. High arsenic values are closely associated with the dacitic to rhyolitic dykes. Arsenopyrite has been observed at all six showings.

Patterns of plus 20 ppb gold in soils, that contain values up to 523 ppb Au, are also shown on Figure 4. Note that showings 1 and 2 are

well removed from anomalous gold in soils. As at numerous other prospects on the Charlottes, soils collected on ridge tops and upper hillsides rarely yield highly anomalous gold values in soils, although anomalous arsenic values do occur. Therefore the flat topped ridge that has anomalous arsenic in soils should not be overlooked in future exploration for gold

The largest and strongest gold soil anomalies occur in the northwest part of the system and are open to the northwest along the fault system but within the valley bottom. These gold anomalies occur on moderate to gentle lower valley slopes where outcrop is sparse, although small discontinuous outcrops appear in creeks nearby.

CONCLUSIONS

Reactive rocks of limestone to limy argillite composition have been preserved by faulting within older greenstones and have been intruded by gabbroic to rhyolitic dykes along a major northwest trending fault zone. Strong arsenic-gold geochemistry is associated with the fault bounded limy rock sequence and forms an elongate pattern along the fault zone that is open at both ends under valley bottoms. Six gold showings have been found with grades ranging up to 0.268 oz/ton Au over 1.5 m. at showing 1. One showing, a jasperoid body 10-12 m wide by 80 m long with spotty gold values up to plus 5000 ppb Au, indicates there is a good potential for sizeable ore bodies on the property. Extensive overburden although generally less than ten feet could conceivably be hiding more showings at surface. The presence of reactive limy rocks within such a

large and intense geochemical anomaly demands that more exploration be conducted on the property.

All the showings exhibit a strong control of faulting on mineralization and it is suggested that the northwest fault zone and associated cross faults acted as a conduit for ascending hydrothermal solutions. Precipitation of silica-pyrite-arsenopyrite and gold mineralization within and adjacent to faults and dyke contacts have been described and provide targets for trenching and drilling. The basal contact of the Kunga Formation should be thought of as an ultimate target for large replacement type ore bodies as the basal limestone would be the first limy rocks to be encountered by ascending hydrothermal fluids and could host the biggest and best mineralized bodies on the property. Such a target is difficult to pinpoint for immediate drilling and a stepwise development of known showings to deeper and deeper levels will ultimately lead to testing this favourable contact. The jasperoid at showing #3 is the target closest to this basal Kunga contact and showing number 6 is the next closest based on well documented stratigraphy of the Kunga Formation. The jasperoid is also the largest mineralized body though deep oxidation has made evaluation difficult to date.

RECOMMENDATIONS

I recommend that showings 4 and 5 be opened and prospected along strike by trenching using a portable plugger and powder. Showing 6 should also be trenched in an attempt to locate and follow the bedrock source of mineralized float. These trenches and showings should then be mapped and chip sampled in detail.

I further recommend that following the above trenching and sampling, approximately 500 m of diamond drilling be completed on the best targets available, at the discretion of the project geologist. Two holes are suggested for the jasperoid as shown on Figure 5 to test unoxidized and deeper levels of mineralization although these holes are not mandatory if better targets are developed at the other showings. A budget for this work is as follows:

TRENCHING	
Mob-Demob 2 men crew and equipment	\$ 3,000
1 Geologist x 15 days x \$300/day	4,500
1 Helper x 15 days x \$200/day	3,000
Food and accommodation, 2 men x 15 days x \$50/day	1,500
Equipment rental	400
Supplies, powder, sample bags, etc.	2,000
Geochem 75 samples x \$8/sample	600
Report	2,000
	\$17,000

DRILLING 500 m @ \$180/m all costs included

90,000

\$ 107,000

Contingency 13,000

TOTAL \$ 120,000

Respectfully submitted,

Gordon G. Richards, P.Eng.



RICHMOND, B.C., September 17, 1987.

STATEMENT OF QUALIFICATIONS

I, Gordon G. Richards, of Richmond, in the Province of British Columbia, DO HEREBY CERTIFY THAT:

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- I am a Consulting Geological Engineer with offices at 5700 Forsythe Crescent, Richmond, B.C., V7C 2C3; Phone: 270-6862.
- I am a graduate of The University of British Columbia, B.A.Sc., 1968, and M.A.Sc. 1974.
- I am a member in good standing of the Association of Professional Engineers of the Province of British Columbia.
- 4. This report is based on eleven years prospecting experience on the Queen Charlotte Islands, personal involvement in discovery and exploration of the ground now covered by the claims, and an examination of the property March 10, 1987.
- 5. I have no interests in FOUNDATION RESOURCES LTD., or in the property reported on herein, nor do I expect to receive any.
- 6. I hereby consent to the use of this report by FOUNDATION RESOURCES LTD. in a prospectus or any other document that may be required by any regulatory authority.

DATED at Richmond, British Columbia, this 17th day of September, 1987.

Gordon G G .G. RICHARDS BRITISH

- Christie, J.S., and Richards, G.G. Assessment Report dated October 26, 1981. Geology and Geochemical Report, Goldy #1-#2, and LOCKE #1-#4 Mineral Claims.
- Christie, J.S., and Richards, G.G. Assessment Report dated August 3, 1983. Geology-Geochemistry-Trenching, LOCKE #1-#4, Goldy #1-#2, Three Bears, Papa Bear, Mama Bear, Baby Bear, Hot Porridge Mineral Claims.
- Richards, G.G. February 25, 1987. Report on the LOCKEPORT Prospect, Moresby Island, Queen Charlotte Islands.
- Sutherland-Brown, A. 1968. Geology of the Queen Charlotte Islands, British Columbia Department of Mines, Bulletin No. 54.

CERTIFICATES

The foregoing constitutes full, true and plain disclosure of all material facts relating to the securities offered by this Prospectus as required by the Securities Act and its regulations.

Dated: September 18, 1987

JOHAN THOM SHEARER

Chief Executive Officer and Promoter

ARTHUR FREEZE CHARLES

Chief Financial Officer and Fromoter

ON BEHALF OF THE BOARD OF DIRECTORS

MURRAY McCLAREN Director and Promoter

ROBERT LAWRENCE MOUAT Director

To the best of my knowledge, information and belief the foregoing constitutes full, true and plain disclosure of all material facts relating to the securities offered by this Prospectus as required by the Securities Act and its regulations.

Dated: September 18, 1987

GEORGIA PACIFIC SECURITIES CORPORATION

Per:

Those persons holding an interest of not less than 5% of Georgia Pacific Securities Corporation either directly or indirectly, are: R.B.A. Investments Ltd. (wholly owned by R. Brian Ashton), K.W.S. InvestmentCo. Ltd. (wholly owned by K. C. Kam), Duggan Securities Ltd. (controlled by D. Duggan) Pacific High Mangement Inc. (wholly owned by L.A. Martin) and Jusco Investments Ltd. (wholly owned by Colin S. Chow).