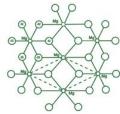




Ministry of Energy & Mines	
Energy & Minerals Division	ASSESSMENT REPORT
Geological Survey Branch	TITLE PAGE AND SUMMARY
	$ \land \land$
TITLE OF REPORT [type of survey(s)] GEOLOG [C 14 L	H TOTAL COST 4500
AUTHOR(S) N. T. SHEARER, M.S., P.Geo	_SIGNATURE(S)
NOTICE OF WORK PERMIT NUMBER(S)/DATE(S)	YEAR OF WORK 2012
STATEMENT OF WORK - CASH PAYMENT EVENT NUMBER(S)/DATE(	3)
	EVENT#- 5404377_
PROPERTY NAMEREDONDA	e
CLAIM NAME(S) (on which work was done) Brueitic	
5.	49382
commodities sought <u>Magnetile + Brucite</u>	2
MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN	
MINING DIVISION VANCOUVER M.D	NTS 92K/7W (92K,026)
LATITUDE <u>50 ° 17 ; 121 1</u> LONGITUDE	12.4 ° 50; 573 W (at centre of work)
OWNER(S)	
1) J. T. SHEARER	2)
	-
MAILING ADDRESS	
Unit 5-2330 TYNER ST.,	
PORT COQUITLAM, B.C. V3C ZZI	
OPERATOR(S) [who paid for the work]	
1) As Above	_ 2)
MAILING ADDRESS	
ABONE -	
15 112	
PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structur	e, alteration, mineralization, size and attitude):
REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMEN	IT REPORT NUMBERS ASSESSMENT Reports
	v

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping		549382, 549389	4,500
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			1
	· · · · · · · · · · · · · · · · · · ·		
Radiometric			
Seismic		······································	
Other	<u> </u>		
Airborne			
GEOCHEMICAL			
(number of samples analysed for)			
Soil			
Silt			
Rock			
Other	· · · · · · · · · · · · · · · · · · ·		
DRILLING			
(total metres; number of holes, size)			1. 1. 1. 1. 2.
Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying	·····		
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale, area)			
PREPARATORY/PHYSICAL			
Line/grid (kilometres)	• • · · · · · · · · · · · · · · · · · ·		
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)			
Underground dev. (metres)			
Other			
		TOTAL CO	DST 4500



Redonda Environmental

# **GEOLOGICAL ASSESSMENT REPORT**

# on the

# WEST REDONDA BRUCITIC MARBLE (Magnesium Hydroxide) Pryce Channel Area, Toba and Bute Inlets

Vancouver Mining Division Latitude 50°17.121N/Longitude 124°50.573W NTS 92K/7W (92K.026) Event #5404377

BC Geological Survey Assessment Report 33897

**Prepared for:** 

Redonda Environmental Services Ltd. #5-2330 Tyner St. Port Coquitlam, B.C. V3C 2Z1 Phone: 604-970-6402, Fax: 604-944-6102

Prepared by:

J. T. SHEARER, M.Sc., P.Geo. (BC & Ontario)

December 2, 2012

Fieldwork completed between November 1, 2011 and September 11, 2012

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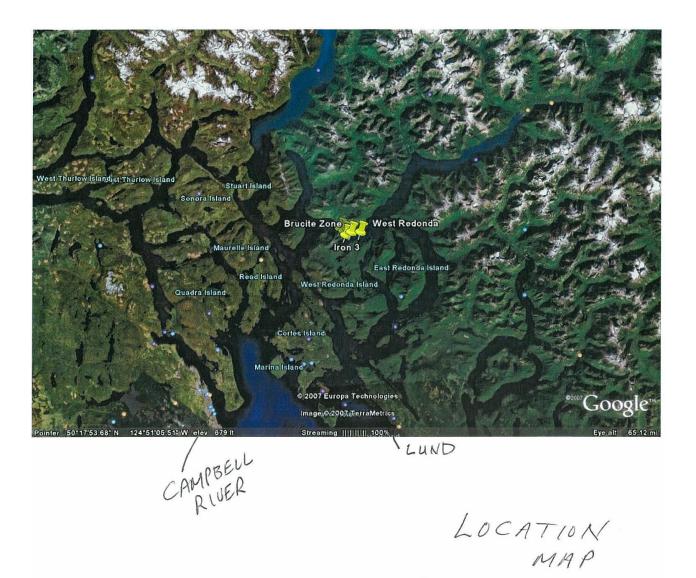


FIGURE 1

## SUMMARY

- The West Redonda Property Island is about 30km north by boat from the community of Lund or about 45km north of Powell River, B.C. The limestone Brucitic marble quarry on West Redonda Island is located 1.2km west of Gloucester Point.
- 2) The main limestone unit was quarried in the years 1920, 1921, 1922, 1923 and 1924 with a recorded production totalling 24,126 tonnes by Nickson Construction for Pulp and Paper Mills in Howe Sound.
- 3) Brucite (magnesium hydroxide) occurs within zones as 1 to 3mm granules, particularly in the eastern margin of the deposit where brucite constitutes about 30% of the rock. Brucite is a magnesium hydroxide Mg(OH)2, and consequently it has a higher magnesium content than most minerals used as an ore of magnesium. Brucite forms soft, waxy to glassy, white, pale-green, grey or blue crystals, plate aggregates, rosettes, fibrous masses and fracture fillings. It is relatively soft (2.5 on Mohs Scale) and it has a low density (2.38-2.40g/cm<sup>2</sup>)
- 4) In 1944, Gouge collected samples which assayed:

	MgO	CaO	Fe <sub>2</sub> O <sub>3</sub>	Al <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>	CO <sub>2</sub>	H <sub>2</sub> O at 105°C
Sample 23	9.22	46.27	0.32	0.22	1.28	39.94	2.94
Sample 23A	20.50	37.21	0.18	0.05	0.48	34.66	6.48

- 5) Several magnetite zones are known from previous work including:
  - a. Black Warrior solid magnetite 4.3m wide by 15.2m high. Assays across 4.3m = 64.8%Fe
  - b. Redonda Iron Mine (Elsie) past producer of 568 tonnes exposed 15.2m wide, 12.2m high and 6.1m long. Assays in 1919 gave 60.6%Fe.
  - c. Homestake outcrop width of 18.2m
- 6) Previous sampling in 2007 consisted of prospecting along the magnetite-bearing creeks and sampling of the Brucitic limestone quarry. As an industrial mineral, brucite can be used in caustic and dead-burned magnesia production. It also has a variety of other industrial mineral applications such as a functional filler in plastic compounds, fire and smoke retardant, electric wire insulation, carpet backing, and waste water treatment chemical. Work in 2011 focussed on clearing the small scrub trees on the old quarry floor and collecting samples.
- 7) The program in 2012 consisted of sample collection, diamond blade sawing and careful examination of rock textures.
- 8) It is recommended that a current data base of prices and specifications be compiled to map out the appropriate production strategies, since test results to date indicate encouraging grade and hardness properties.

Respectfully submitted,

J. T. (Jo) Shearer, M.Sc., P.Geo. December 2, 2013

### INTRODUCTION

The West Redonda Island area lies about 50 km northeast of Campbell River, B.C. and 30 km north of Lund. The area lies at the northeastern end of the Vancouver Island Coast Ranges and is characterized by fairly rugged topography with fault-line scarps and fault-controlled valleys accentuated by glaciation. The claims straddle the west side of the Coast Plutonic Complex.

The oldest rocks in the West Redonda Island Area belong to the Paleozoic Alexander Terrain, which contain volcanic and sedimentary units ranging from Middle Devonian to Early Permian age.

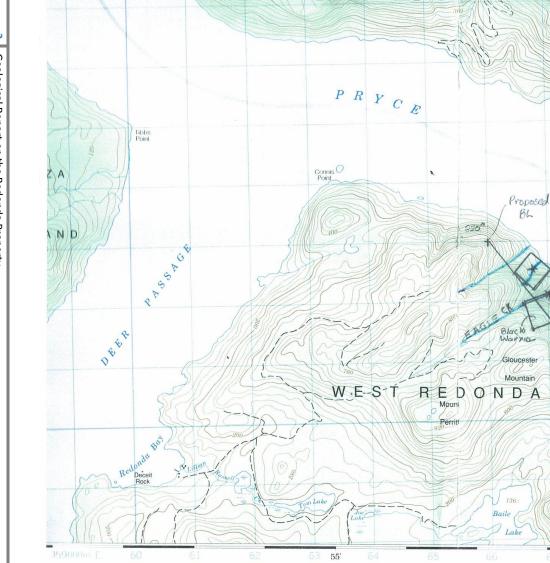
Northern Vancouver Island and adjacent Mainland has a complex structural history with frequent rejuvenation of previous structures. All Paleozoic rocks are affected by a series of southeast trending, upright to overturned, southwest-verging folds.

On the Brucitic One Claim a band of limestone and brucitic limestone (magnesium hydroxide), 60 metres wide enclosed in granitic rocks, extends southwestward up the side of Gloucester Mountain for at least 800 metres from the shore of Pryce Channel. The carbonate sequence strikes 180° and dips vertically. The beds are cut by fine-grained feldspar dikes. The band is composed mainly of bluish grey, fine-grained white limestone containing a few beds of orange-buff weathering skarn on the margins.

Magnesium hydroxide is an alkali that is widely used for neutralisation of acid effluents, removal of dissolved heavy metals from industrial effluents and flue-gas scrubbing. It also has applications as a flame retardant filler, as well as a feedstock for the production of magnesia and other magnesium chemicals. It is available in the market as an aqueous slurry and as a dry powder.

The limestone and brucite prospects of the West Redonda Claims could possibly be developed to produce various products and by-products, starting with single stage crushing and screening of the limestone to produce construction aggregates for the local market. With the addition of grinding and packaging facilities, the brucite could yield fillers and products for more regional markets in fire retardants. Further potentials include products for the national and international markets, such as dead burned magnesium oxide for refractory brick manufacturing and caustic calcined magnesia (periclase) for the refractory industry, which would yield quicklime, hydrated lime and magnesia as by-products used by the pulp and paper industry. Finally, magnesium metal could be produced, using either one of the ferrosilicon processes (Pidgeon process or Magnetherm Process) or one of the magnesium chloride processes (Kaiser or Dow).

It is envisaged that, if sufficient reserves are defined, then primary crushing and screening would be carried out at the future quarry site, the crushed material would then be conveyed to the prospective barge loading facility for shipment to customers or distributors, or the plant site for secondary crushing and further treatment.



68 69 50' FIGURE Z DETAIL LOCATION MAP

Bay

74

-72 Gloucester

COAST LAND DISTRICT RANOT I NEW WESTMINSTER LAND DISTRIC

WALSH COVE

Wadd

PROVINCIAL

PARK

Bishop Point

C H A N N E L 73

Elizabeth Island

Elsie

Eagle A Homestake CK

Homestake

ISLAND

Mount

Monk

Bonanza

CENTRE FOR MAPPING. WINES AND RESOURCES. )F 1989. PUBLISHED 1991.

A THE CANADA MAP OFFICE, 3 AND RESOURCES, OTTAWA,

## LOCATION AND ACCESS

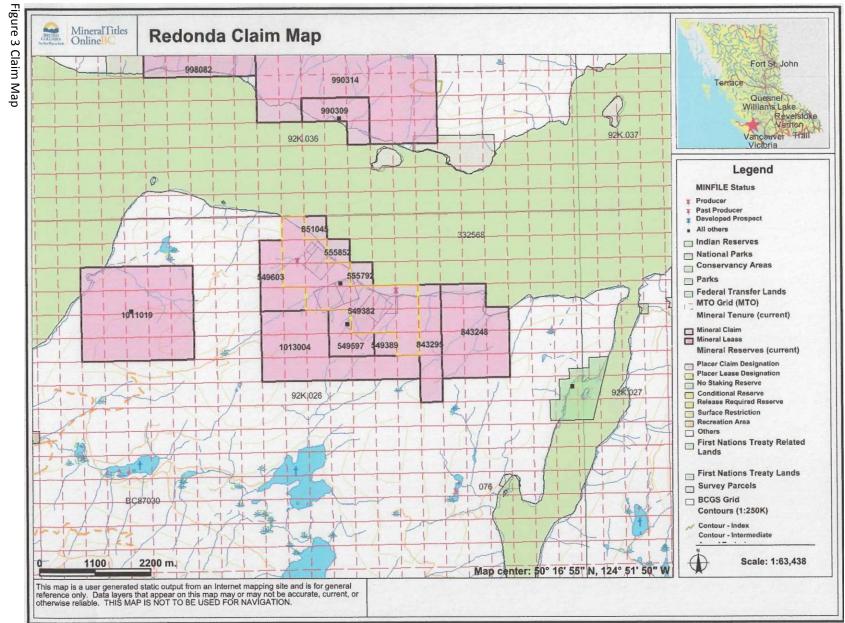
The areas covered by the West Redonda Claims are situated 30 km northeast of the launch facility at Lund. Lund is 15 km north of Powell River on Highway 101 and 42 km northeast of Campbell River.

West Redonda Island is south of Pryce Channel between Toba and Bute Inlets and north of Desolation Sound.

Active fish farms occur in the area and current non-union logging is underway on the north side of Pryce Channel.

The area is also 19km north of the First Nation Community of Squirrel Cove (on Cortes Island). The general area is within the Asserted Traditional Territories of the Homalco and Klahoose First Nations.

Pryce Channel has very deep water to within a short distance from a steep rocky shore. Barges in the 1920's were loaded directly out of the quarry as evidenced by the steel tie-ups noted on the shore.



Geological Report on the Redonda Property December 2, 2012

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## **CLAIMS STATUS**

		TABLET		
		List of Claims		
Name	Tenure #	Area (ha)	Current Expiry Date*	Registered Owner
Brucitic One	549382	309.68	September 15, 2014	J. T. Shearer
Brucitic Two	549389	20.65	September 15, 2014	J. T. Shearer
Red 2	555852	20.64	September 15, 2013	J. T. Shearer
Coast 1	555792	20.64	September 15, 2013	J. T. Shearer
Redo 4	549597	61.95	September 15, 2013	J. T. Shearer
Redo 6	549603	82.58	September 15, 2013	J. T. Shearer
Redo A	843248	227.14	September 15, 2013	J. T. Shearer
Red 11	843295	103.25	September 15, 2013	J. T. Shearer
Red	851045	20.64	September 15, 2013	J. T. Shearer
	•	Tatal ha OCT 17		•

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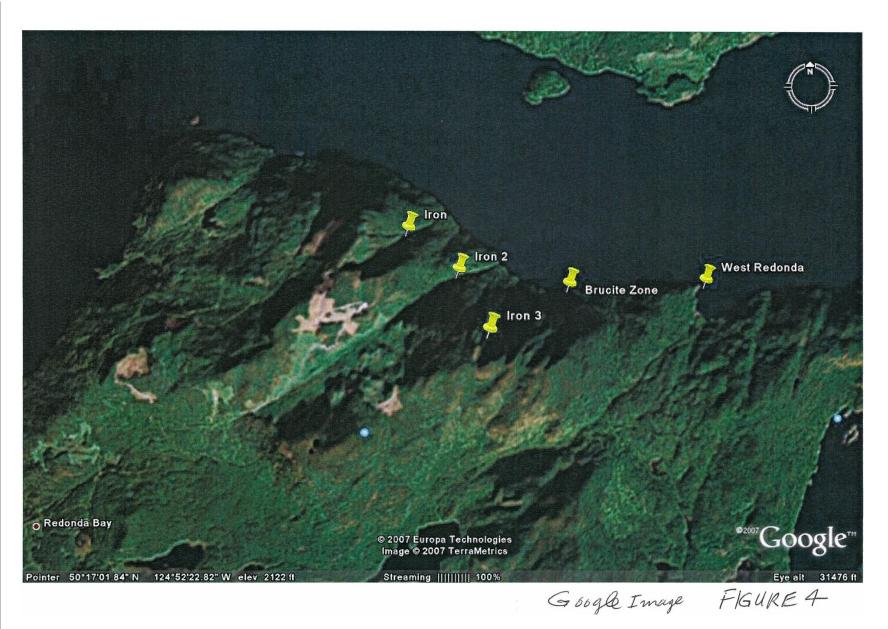
The property consists of eleven MTO Cell Claims as shown in Table I and Figure 3

Total ha 867.17

\* with application of Assessment work documented in this report.

Mineral title is acquired in British Columbia via the <u>Mineral Act</u> and regulations. Following revisions to the Mineral Tenures Act on July 1, 2012, claims bear the burden of \$5 per hectare for the initial two years, \$10 per hectare for year three and four, \$15 per hectare for year five and six and \$20 per hectare each year thereafter.

Under the present status of mineral claims in British Columbia, the consideration of industrial minerals requires careful designation of the products end use. An industrial mineral is a rock or naturally occurring substance that can be mined and processed for its unique qualities and used for industrial purposes (as defined in the *Mineral Tenure Act*). It does not include "Quarry Resources". Quarry Resources includes earth, soil, marl, peat, sand and gravel, and rock, rip-rap and stone products that are used for construction purposes (as defined in the *Land Act*). Construction means the use of rock or other natural substances for roads, buildings, berms, breakwaters, runways, rip-rap and fills and includes crushed rock. Dimension stone means any rock or stone product that is cut or split on two or more sides, but does not include crushed rock.



### HISTORY

#### Elsie

This mineral claim was staked many years ago (Minister of Mines Annual Report 1918) and a shipment of about 600 tons of magnetite ore was made to an iron blast-furnace in Oregon. The claim was worked and Crown-granted about 1885. The claim is located on the west side of West Redonda Island, on the slope of a very steep mountain which reaches an elevation of about 3,000 feet within quite a short distance from the shore. The claim is staked from the shore in a southerly direction, starting from the mouth of a small torrential unnamed stream which flows through a box canyon for a considerable distance. The trail up the mountainside has a grade of nearly 45 degrees.

#### **Black Warrior Group**

This group contains the Eagle, Iron Cliff, Black Warrior, Homestake and Bonanza mineral claims. The group is staked from the shore of Pryce Channel easterly from the Elsie mineral claim, including about 4,500 feet along the shore-line in an easterly direction, and extending up the northerly slope of the precipitous mountain range for about 3,000 feet horizontal measurement.

#### West Redonda Island

About 1.2 kilometres west of Gloucester (George) Point on West Redonda Island, two limestones each about 30 metres wide, are exposed along the shore about 100 metres northwest of the west corner of Lot 3439. Other smaller occurrences are exposed less than a kilometre west and northwest of Lot 3439.

The main limestone to the east were quarried in the 1920's and are exposed from sea level to over 200 metres elevation on the precipitous slope. It is bounded by a green intrusive rock which is in turn enclosed by a light coloured hornblende granite. The limestone is white and grey, medium to coarse grained with a locally mottled texture. A shear-related lamination occurs within a section of white limestone. Total production from 1920 to 1924 was 24,126 tonnes.

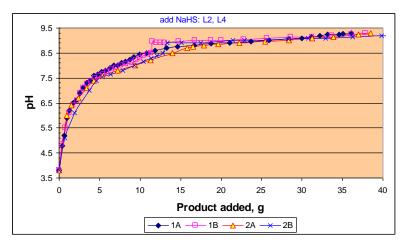
#### Brucite 2007

Work in 2007 consisted of prospecting and sampling along creeks where the magnetite zones were located and collecting large character samples of the limestone and brucitic limestone at the 1920's quarry.

Metals of interest in the AMD and treated effluents are listed in the following Table, along with the primary batchparameters of relevance.

Control	Process	:	Selected E	ffluent Ass	says, ppb		
Analyte	Feed	L1	L2*	L3	L4*	Target	Specific Comments
AI	20,676	20	41	31	91	410	
Cd	92.5	0.2	0.1	0.3	0.1	2.3	
Cu	15,907	20	11	10	7	<5	
Zn	17,055	55	28	31	9	68	
Fe	530	65	620	681	543	<50	suspended matter mainly
Mn	4,524	76	34	125	16	414	
Brucite	Sample ID:	1A	1B	2A	2B		random cuts from 2 pails
to pł	ł 9.3, kg/m <sup>3</sup> :	36.14	37.82	38.49	57.28 -		<ul> <li>buffered above pH 9.2</li> </ul>
PLS	Filter Type:	micropore	TSS	TSS	TSS		no HDS recycle
NaHS a	dded, g/m <sup>3</sup> :	-	50	-	50		*normal in mine environments
R	esidue, g/L:	34.73	34.26	37.08	56.09		

Without HDS, target values for Cu were nearly achieved, especially in the presence of trace levels of sulfide (NaHS) that could be encountered in the actual site environment. The iron target can be met by filtering on Milipore<sup>®</sup> membranes (0.45 microns) and higher iron in feed as well as HDS is expected to facilitate its removal. The AMD titration curves were quite reproducible as shown in the Figure below.



In 2009 tests were conducted on Britannia water treatment. Carbonates (soda ash, limestone and dolomite) are weaker neutralizers as compared to calcined and slaked products (caustic soda, lime and brucite), and the latter are more effective in achieving pH >9 where decomposition of the carbonates by free acid no longer occurs. The product titration curves indicate that your brucite marble is most effective to pH 7.5 (consuming 5g/L), or even pH 8.5 (consuming ~12g/L). The addition of 0.05g/L of NaHS boosted the pH from 8.5 to 8.9, and Na2S or slaked lime could probably be used to achieve pH 9.3 very rapidly once a pH  $\geq$ 8 is established with your product.

Recycling of the underflow sludge (≥100% recycle ratios) in the High Density Sludge (HDS) thickener would expose residual carbonates to more incoming free acid as well, and continuous testing would be required to establish realistic consumption rates and effluent qualities.

The contaminated water obtained was treated at Inspectorate America Corp. (PRA Metallurgical Division in Richmond, BC) under the direction of Dr. Gie Tan, Technical Manager. The test used was:

- (a) take 1 litre of contaminated water
- (b) measure pH (3 to 3.5)
- (c) aerate
- (d) add product (Magnesium Hydroxide) to increase pH to 9.3 (9.3 pH is very important).

(e) Add flocculant polymer gel at 0.2mg/l (Magnafloc 10) at a dose at 2mg/litre. When mixing the flocculant it requires vigerous agitation. Vacuum filter 42 microns, then analyze by ICP total and dissolved metals for Al, Cd, Cu, Zn, Fe, Mn.

(f) weigh sludge generated (ideally produce less sludge than Calcium Hydroxide).

The final treated water results are close to what is produced by your treatment facility (with the exception of Iron which is sensitive to the amount of aeration available). The Epcor Treatment Facility does a much better job of aeration than can be duplicated on the Lab bench. Magnesium Hydroxide (Brucitic marble) does not need to be slaked since there is no oxide and the hydroxide is already present.

The amount of solids generated with our product is 42kg per cubic metre of water.

### **REGIONAL GEOLOGY**

The Coast Plutonic Complex is a long narrow belt of plutonic and metamorphic rocks extending from northern Washington through the Coast Mountains of western British Columbia into southeast Alaska and Yukon Territory, Roddick and Hutchison (1972 and 1974) and Hutchison (1970) summarized the geology of the southern half of this belt and provided numerous references. The belt consists largely of intermediate and basic (locally migmatitic) discrete and coalescing plutons, bodies of gneiss and migmatites, and pendants of metamorphosed sediments and volcanics. Between latitudes 52° and 55° N a complex of migmatites, gneiss and plutonic rock (the Central Gneiss Complex) forms the core of the Coast Plutonic Complex and may represent the oldest and most deeply exhumed rocks in the belt. The strata flanking the Coast Mountains are dominantly Mesozoic volcanic and sedimentary rocks, with minor Paleozoic material, which have been intruded by Mesozoic and Tertiary granitoid plutons.

The Coast Plutonic Complex has a pronounced asymmetry. Diorite and dioritic migmatites are most abundant in the western part of the belt; granodiorite and quartz monzonite are more plentiful to the east. Metamorphic grade of the stratified rocks increases from the greenschist facies in the western part of the belt to amphibolite (locally granulite) facies in the central and east-central parts.

An inspection of the regional geology map (Roddick 1980, O.F. 480), shows several elongate, fault-bounded slices of metasedimentary rocks sandwiched between diverse separate plutons of the Coast Plutonic Complex. To the northwest of the West Redonda Island is the series of gold-silver properties of the Alexandria-Dorotha Morton stretching from Fanny Bay on Phillips Arm to Duncan Point on Knight Inlet, a distance of over 30 km.

The Alexandria mine consists of extensive workings, which include five or more portals on the western shore of Phillips Arm. The main mine workings date back to 1989 with extensions and improvements since that time by various owners. Production in 1939 and 1940 totals 1694 tonnes, yielding 40,580 grams of silver, 2,239 grams of gold and 1,761 kilograms of copper.

The mine straddles the sheared contact between diorite to the southwest and metamorphosed rocks to the northeast. The shear zone dips approximately 75° to the southwest and locally truncates the contact. It can be traced from the Alexandria through the Enid-Julie (092K 024) and Doratha Morton (092K 023) and on to the Commonwealth (092K 025) occurrences respectively.

The workings explore the highly silicified and quartz-veined shear zone. Pyrite and minor chalcopyrite within the quartz veins are known to carry high gold and silver values. The best intersections from underground drillings re 1.0 metre grading 11.0 grams per tonne, 1.15 metres grading 6.45 grams per tonne and 0.82 metre grading 5.0 grams per tonne gold (Assessment Report 14466).

Drill indicated resources are 25,600 tonnes grading 10 grams per tonne gold (Exploration in British Columbia 1986, page C274).

## **PROPERTY GEOLOGY and 2012 PROGRAM**

The property is mainly underlain by Coast Range intrusives with minor limestone septa.

At lower elevations on the property the sediments consist mainly of massive grey limestones locally metamorphosed to a clean white crystalline marble with brucite and infrequently there is some minor pyrite skarn. There is some minor interbedded argillite.

The intrusive phase on the property is a fine grained to medium grained granodiorite. Near the contact this becomes very fine grained and biotite rich.

At the Black Warrior, magnetite outcrops in the steep bank of Eagle Creek at an elevation of 91 metres, 400 metres from the shore of Pryce Channel on West Redonda Island. An open cut on the Black Warrior (L.2446)claim, prior to 1918, in the bank of Eagle Creek uncovered a solid magnetite zone 4.3 metres wide, nearly 15.2 metres high and of undetermined length. Magnetite is hosted in skarn altered limestone and/or greenstone near the contact with diorite. A sample chipped across the width of the face, 4.3 metres, assayed 64.8% iron, 5% silica and trace phosphorous and sulphur (Minister of Mines Annual Report 1919, page 216).

The island's geology is composed of intrusive rocks of the Jurassic to Cretaceous Coast Plutonic Complex. Age dating from the southern part of West Redonda Island indicates an age of 111 to 113 million years by potassium-argon from biotite and hornblende (Geological Survey of Canada Open File 480). Locally, highly metamorphosed greenstone and limestone of unknown group, formation or age are found in diorite.

At the Homestake, magnetite is recorded to occur in outcrop for a width of around 18.2 metres. The magnetite, where it outcrops, does not occur at the actual line of contact between limestone and diorite, but a short distance away. No assays or examinations of the extent and quality of the magnetite have been made at this location (Minister of Mines Annual Report 1918, page 283).

The Redonda Iron prospect is centrally located on the Elsie (L.1648) claim on the north shore of Redonda Island. The claim was originally staked in 1892 and produced 568 tonnes of ore but no other development has taken place and the prospect remains largely undeveloped (Open file 1988-28).

Magnetite is hosted in skarn altered tuffs and limestone near the contact with diorite. The skarn mineralogy comprises primarily pyroxene and garnet with wollasonite and vesuvianite developed in limestone. The mineralogy also includes diopside, quartz, epidote, calcite and a small amount of sphene.

The deposit is exposed in a large open cut or quarry about 15.2 metres wide from east to west, 12.2 metres high at the face and 6.1 metres north to south. The deposit exposed in the face is a massive body 15 metres high and 9 metres wide with a 3 metre margin of mixed magnetite and skarn. A grab sample from the face of the open cut assayed 60.6% iron, 10.9% silica and trace sulphur and phosphorous (Minister of Mines Annual Report 1919, page 216).

In general the magnetite occurs in nests, granules or reticulating veins throughout the altered limestone. Irregularly distributed throughout the solid ore are a few small cavities in which the magnetite has assumed the form of small crystals.

In 2011, a 2-man prospecting team travelled to the property and cut out some of the scrub timber covering the old quarry floor and collected an additional sample.

The 2012 program consisted of a site inspection, sample collection and detail geological descriptions (see Appendix III). The Brucitic Marble contains small Brucite grains ( $Mg(OH)_2$ ), form soft, somewhat waxy white grains/crystals, fibrous masses an fracture fillings within the white to light grey carbonate groundmass.

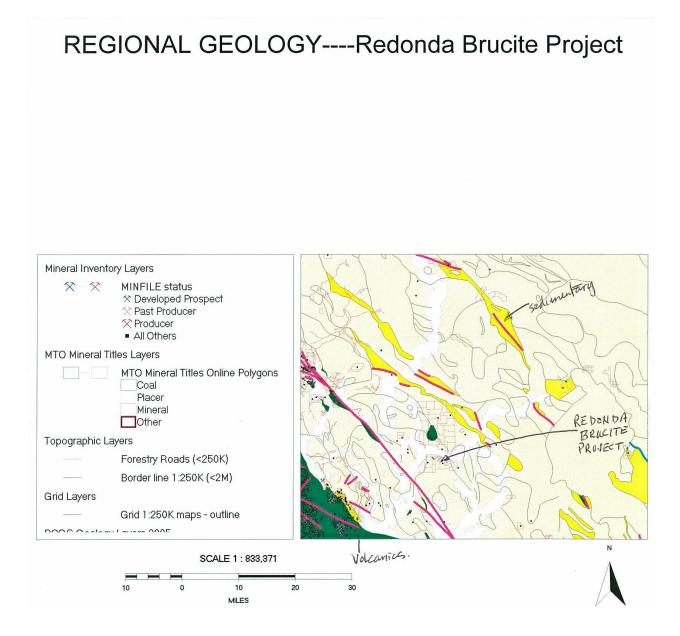
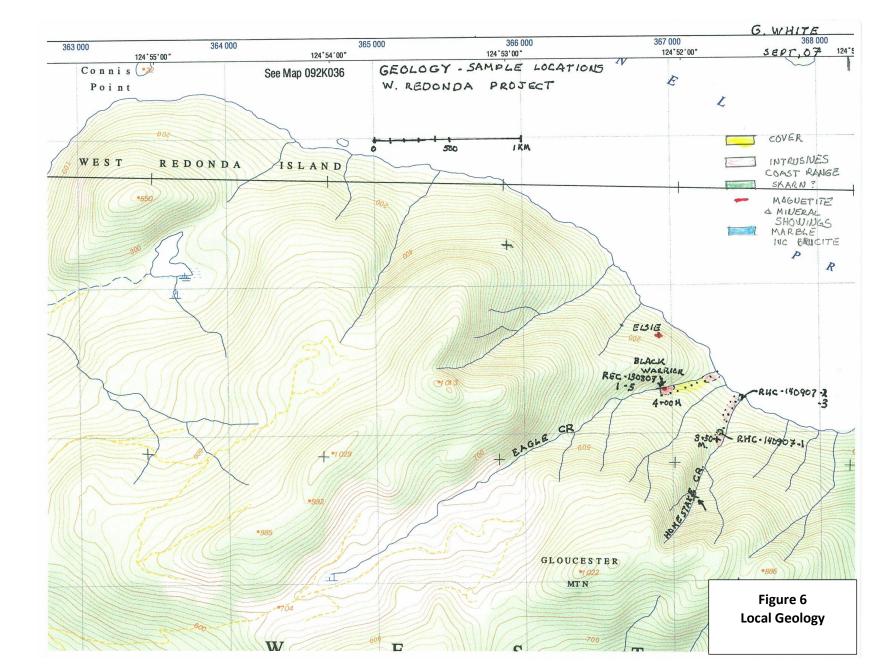


Figure 5 Regional Geology



## **PREVIOUS METALLURGY**

Seven sample lots were previously delivered to Process Research Labs on September 18, 2007, totalling 161.4kg in weight. Head assays indicated an MgO grade between 4.7% and 7.2% which was accompanied by an average of 83.3% CaCO<sub>3</sub> and only 2.45% SiO<sub>2</sub>. All samples showed relatively low ranges of compositional variation and no environmentally deleterious components (refer to full report in Appendix III).

Two sub-samples (QD2A-1 and QD2B-1) totalling 14.6kg in weight, separately crushed to 10 mesh, were subjected to standard grinding in a stainless steel rod mill at a pulp density of 65% solids. With a 30-minute grind time, 99% of the particles were finer than 325-mesh. Product was dried and riffled into 1kg bags for market evaluations. The assays indicated that none of the MgO dissolved and that minor increase in the iron content was affected by grinding.

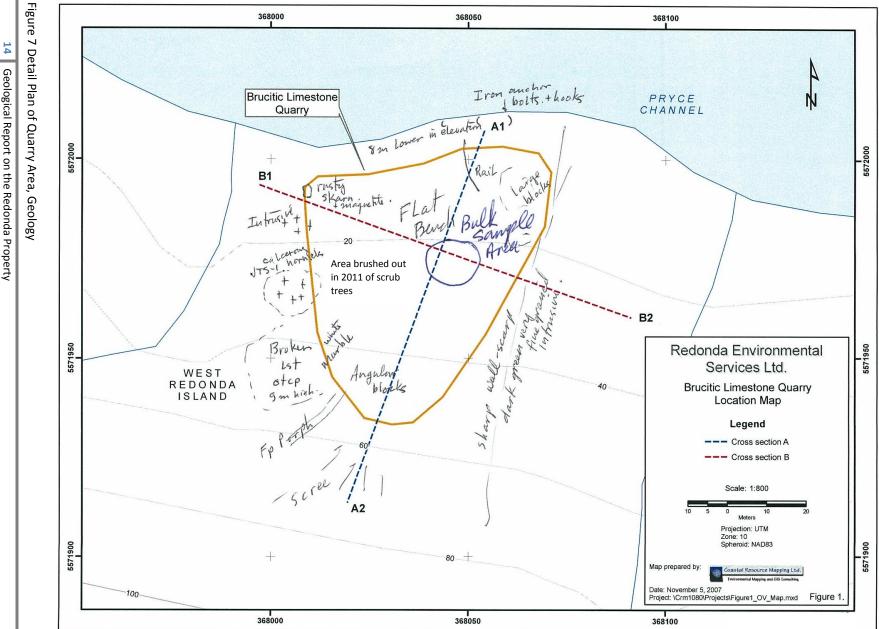
Further work to upgrade the raw ore samples are pending the outcome of market evaluation efforts that should produce tighter product specifications to guide the process design.

Based on the results, an immediate application of this type of ore for neutralization purposes emerges. The carbonate content is elevated and nuisance impurities are largely absent. An upgrading of the neutralization potential and efficiency is normally achieved by roasting and slaking, depending on the intended application.

The remainder of crushed samples QD2A-1 and QD2B-1 were blended and subjected to standard grinding in a stainless steel rod mill at 65% solids pulp density. Judging by the fine grind of 90% passing 325-mesh, the materials can be classified as soft, which would benefit the upgrading costs once an intended application has been identified. The grind decant water assays would indicate very minor dissolution of the MgO, which can easily be augmented by lowering the pH and increasing the bicarbonate content of the leach medium.

Finely ground product samples have been split into 1kg charges for market evaluation that may range from applications as fire-extinguisher media, neutralization agents, ceramic and chemical feed stocks and detergents to metal production industries.

It is recommended that a current data base of prices and specifications be compiled to map out the appropriate production strategies, since test results to date indicate encouraging grade and hardness properties.



Geological Report on the Redonda Property December 2, 2012

## CONCLUSIONS AND RECOMMENDATIONS

The known limestone, brucite and magnetite zones covered by the West Redonda Island Claims have been known for some time. Assays by government workers indicate up to 20.5% MgO due to abundant brucite content.

Most of the limestone production currently mined in British Columbia originates from Texada Island. The Triassic Quatsino Formation on Texada Island contains the most significant limestone resources situated on or near tidewater along the British Columbia coast.

In the West Redonda Island Claim Area, the carbonate formations have been intruded by the Coast Plutonic Complex, which has led to the creation of high purity, high calcium limestones and also extensive high purity brucite units.

Prospecting in 2007 in the central part of the West Redonda Claims has shown that the carbonate horizons do indeed continue to the southwest toward Gloucester Mountain and contain elevated MgO content.

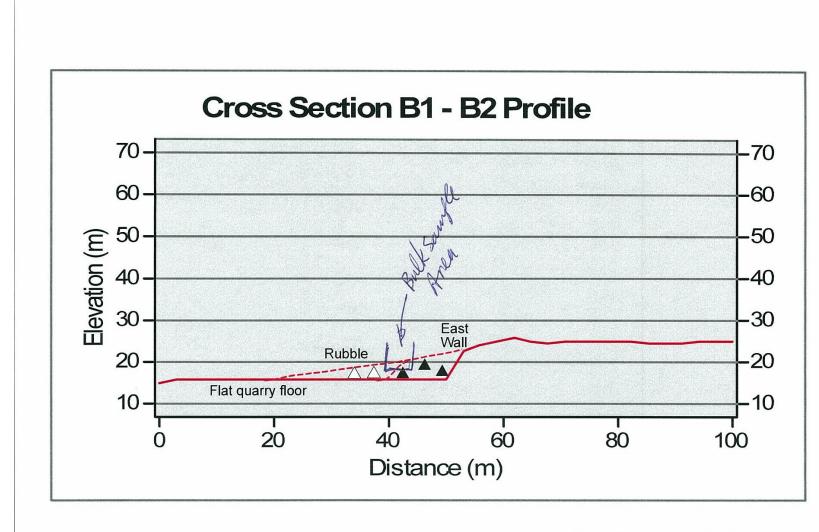
Finely ground product samples have been split into 1kg charges for market evaluation that may range from applications as fire-extinguisher media, neutralization agents, ceramic and chemical feed stocks and detergents to metal production industries.

It is recommended that a current data base of prices and specifications be compiled to map out the appropriate production strategies, since test results to date indicate encouraging grade and hardness properties.

Future work should emphasize a Phase I prospecting and geological mapping, all rocks collected should be assayed and several soil lines in which the soil samples are assayed for Mg, Ca, As, Ag, and Au. A Phase II trenching and diamond drilling are recommended as a follow-up if Phase I results are sufficiently encouraging.

Respectfully submitted,

J.T. Shearer, M.Sc., P.Geo. December 2, 2012



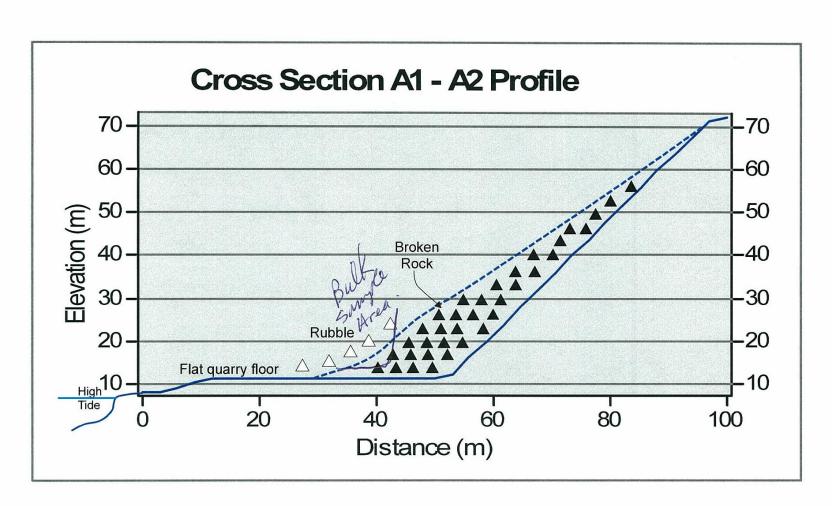
16

Geological Report on the Redonda Property December 2, 2012

Redonda Environmental Services Ltd. East - West Cross Section B1 - B2

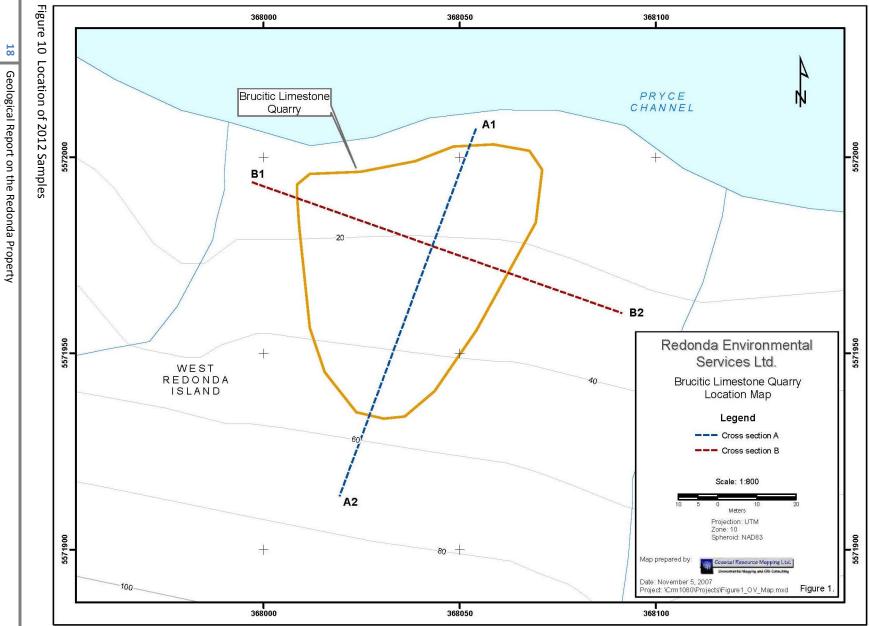
FIGURE 8





Redonda Environmental Services Ltd. North - South Cross Section A1 - A2

FIGURE 9



Geological Report on the Redonda Property December 2, 2012

### Cost Estimate for Future Work West Redonda Island Claims

Continued reconnaissance geological mapping and sampling.

Phase I

2)	<ol> <li>Supervision and mapping</li> <li>Line cutting and sampling</li> <li>Additional PRA Test Work, mineralogy</li> <li>Phase I Total</li> </ol>	
Phase II		
3) 4) 5)	Trenching for fresh material Detail geological mapping Excavation & sorting of 10,000 tonnes for extended trials,	16,000.00 4,000.00 100,000.00 2,000.00 2,000.00
	Phase II Total	\$ 124,000.00
Phase II		
6)	Road Building for Drill access from both	
	north and south of Fish Farm Diamond Drilling, 2,500 ft. @ \$26/ft. Drill Supervision, Core Logging, Core Splitting Core handling facility Report Preparation Phase III Total	20,000.00 65,000.00 18,000.00 4,000.00 <u>3,800.00</u> \$110,800.00
11)	Marketing	5,000.00
	Grand Total Phases I, II & III	\$250,000.00

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# STATEMENT of QUALIFICATIONS

**DECEMBER 2, 2012** 

## **APPENDIX I**

# **STATEMENT OF QUALIFICATIONS**

I, JOHAN T. SHEARER, of 3572 Hamilton Street, in the City of Port Coquitlam, in the Province of British Columbia, do hereby certify:

- 1. I am a graduate of the University of British Columbia (B.Sc., 1973) in Honours Geology, and the University of London, Imperial College (M.Sc., 1977).
- I have over 35 years of experience in exploration for base and precious metals and industrial mineral commodities in the Cordillera of Western North America with such companies as McIntyre Mines Ltd., J.
   C. Stephen Explorations Ltd., Carolin Mines Ltd. and TRM Engineering Ltd.
- 3. I am a fellow in good standing of the Geological Association of Canada (Fellow No. F439) and I am a member in good standing with the Association of Professional Engineers and Geoscientists of British Columbia (Member No. 19,279).
- 4. I am an independent consulting geologist employed since December 1986 by Homegold Resources Ltd. Unit #5-2330 Tyner Street, Port Coquitlam, British Columbia.
- 5. I am the author of this report entitled "Geological Report on the Redonda Property" dated December 2, 2012 for Redonda Environmental Services Ltd.
- 6. I have visited the property in prior years and I carried out geological mapping and sample collection. I am familiar with the regional geology and geology of nearby properties. I last visited the property on September 10 and 11, 2012. I have become familiar with the previous work conducted on the West Redonda Island property by examining in detail the available reports, plans and sections, and have discussed previous work with persons knowledgeable of the area.
- 7. I own an interest in the West Redonda Claims and President of Redonda Environmental Services Ltd.

Dated at Port Coquitlam, British Columbia, the 2<sup>nd</sup> day of December , 2012.

J. T. Shearer, M.Sc., F.G.A.C., P.Geo. Quarry Supervisor #98-3550 December 2, 2012 **APPENDIX II** 

# **STATEMENT of COSTS 2012 PROGRAM**

December 2, 2012

# **Statement of Costs**

Wages		Without HST
J. T. Shearer, M.Sc., P.Geo., Geologist 1.5 days @ \$700/day, September 10+11, 2012 Ron Savelieff, B.Sc., Geologist		\$ 1,050.00
1.5 days @ \$500/day, September 10+11, 2012		750.00
	Wages Sub-total	\$ 1,800.00
Expenses	-	
Truck Rental, fully equipped 4x4, 2 days @ \$120/day		240.00
Fuel		125.00
Ferries		135.00
Boat, 1 day, Water Taxi		652.50
Food and Meals		58.00
Motel		210.00
Rock Sawing & Data Interpretation		700.00
Report Preparation		700.00
Word Processing and Reproduction		240.00
	Expenses Sub-total	\$ 3,060.50
	Grand Total	\$ 4,860.50

Event #	5404377
Filed	September 11, 2012
Amount	\$4,500.00
PAC	\$1,487.56
Total	\$5,987.56

**APPENDIX III** 

# SAMPLE DESCRIPTIONS

December 2, 2012

## APPENDIX III SAMPLE DESCRIPTIONS

See Figure 10 for Location

Sample JS-12-01	From east margin of old quarry, white to very light grey overall, bright white diffuse platey aggregates of Brucite disseminated throughout up to 10%, Brucite appears to be randomly oriented, carbonate matrix as medium crystalline
Sample JS-12-02	From east margin of old quarry, light brownish weathering, overall bleached appearance, chalky white fracture filling – wispy to re-healed in nature. Traces of black (Bitumen) associated with small lenses of chalky Brucite. Traces of very small vugs