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Ministry of Energy, Mines & Petroleum Resources
Mining & Minerals Division
BC Geological Survey

Assessment Report
Title Page and Summary

TYPE OF REPORT [type of survey(s)]: Geochemical

TOTAL COST: $2,553.20

AUTHOR(S): John A. McClintock P.Eng

SIGNATURE(S):

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): na

YEAR OF WORK: 2017

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): 5642802

PROPERTY NAME: Red Dog East

CLAIM NAME(S) (on which the work was done): 513909, 1019755

COMMODITIES SOUGHT: Copper, gold molybdenum

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN:

MINING DIVISION: Naniamo

NTS/BCGS: 92L 12W

LATITUDE: 50 ° 42 ' 30 " **LONGITUDE:** 127 ° 58 ' " **(at centre of work)**

OWNER(S):

1) North Island Mining

2)

MAILING ADDRESS:

15th Floor, 1040 West Georgia Street

Vancouver, BC V6E 4H1

OPERATOR(S) [who paid for the work]:

1) Northisle Copper and Gold Inc.

2)

MAILING ADDRESS:

as above

PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):

Bonanza Group, andesite tuffs and breccias, advanced argillic, intermediate argillic, phyllic and propylitic alteration

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: na

Next Page

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			
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for...)			
Soil			
Silt			
Rock			
Other	TerraSpec spectral analyses	513909, 1019755	$2,553.20
DRILLING (total metres; number of holes, size)			
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 COST:	2,553.20

2017 Technical Assessment Report on Spectral Analysis at the RED DOG EAST PROPERTY

Nanaimo Mining Division
British Columbia

NTS 94D/11E 50 42.5' N/127 58' W

Event # 5642802

Tenure #'s:
513909 and 1019755

Prepared for:
Northisle Copper and Gold Inc.

Prepared by:
John McClintock, P.Eng,

May 2017

Tables

Figures

Appendices

1.0 SUMMARY

The Red Dog East Property is owned by North Island Mining a fully owned subsidiary of Northisle Copper and Gold Inc.

The property covers a monotonous sequence of andesitic to basaltic flows, tuff-breccia and tuffs of the lower Jurassic-age Bonanza Group. Prospecting carried out in 2016 to define the eastern margin of the large alteration zone associated with the Red Dog Deposit noted porphyry-type alteration in rock outcrops within the area of the current study. To better understand the exact nature of the alteration, samples of rock were collected from outcrops and sent to Ms Kim Heberlein, PGeo for TerraSpec spectral analyses.

The TerraSpec analyses shows a range of alteration types present in the samples from propylitic to advanced argillic alteration. In general, the area of advanced argillic and phyllic alteration occurs in the western and southwestern part of the study area. Further east, propylitic alteration is present.

It is recommended that additional prospecting and sampling of outcrops be done to the south and west of the current area of sampling.

2.0 INTRODUCTION AND TERMS OF REFERENCE

The Red Dog East Property was deemed of interest when prospecting in 2016 noted iron stained and hydrolytically altered outcrops in borrow pits and road cuts in the eastern area of the alteration halo of the Red Dog Deposit. To help characterize the alteration types in these outcrops, spectral analysis study of rocks collected from outcrops and borrow pits was carried out on 15 February 2017.

3.0 PROPERTY DESCRIPTION AND LOCATION

3.1 Location and Access

The Red Dog property is located at the northern end of Vancouver Island, in British Columbia, Canada. Geographic coordinates are 50° 42.5'north latitude and 127° 57.8' west longitude. The claims are owned by North Island Mining a wholly owned subsidiary of Northisle Copper and Gold Inc.

Access to the claim block is from Port Hardy by the Holberg Road to a point about 45 kilometres from Port Hardy where forestry access road NE 62 leads northward to the property. A number of forestry roads Tide water is 15 km away by road at the community of Holberg.

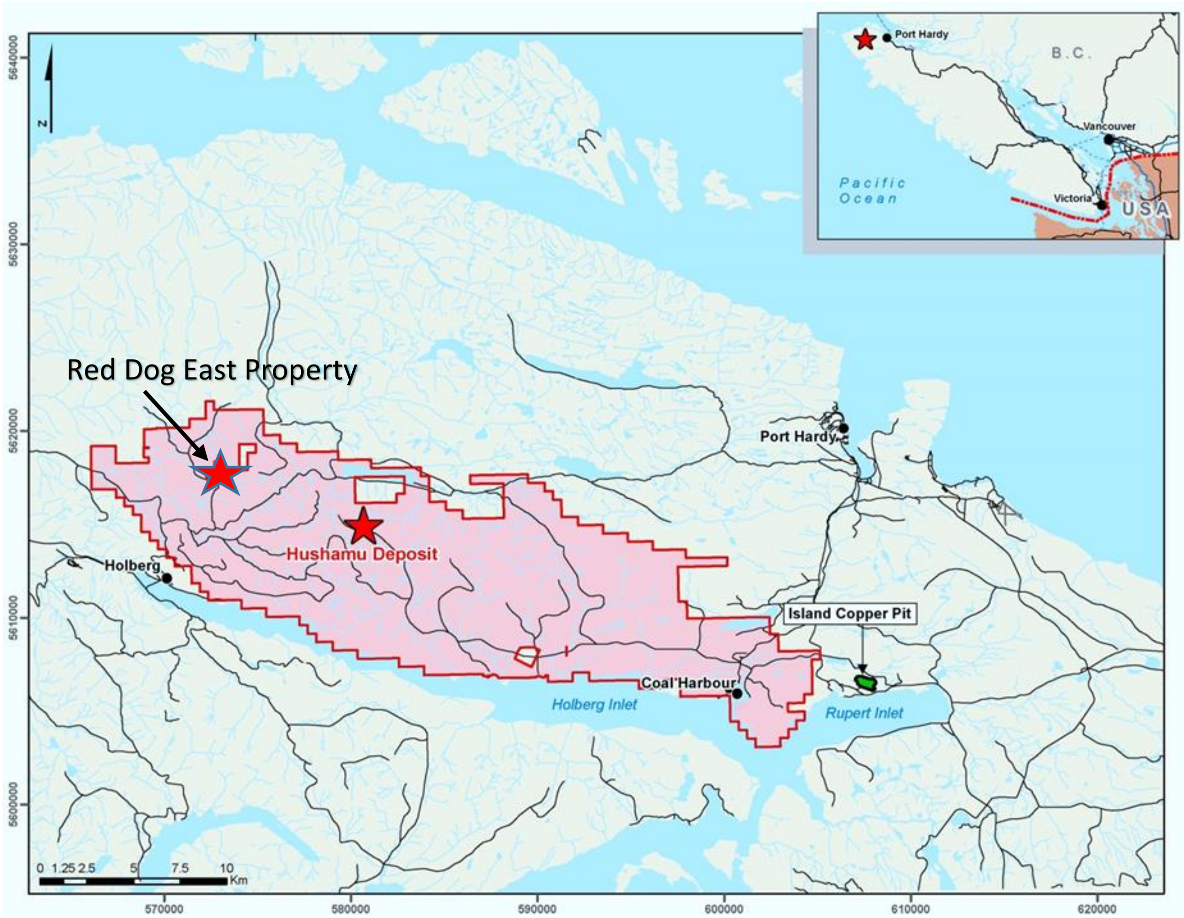
3.2 MINERAL TENURE INFORMATION

The Red Dog East Property consists of two (2) mineral claims totaling 593.55 ha (Table 1). The property is located on NTS map sheet 94L/12W in the Nanaimo Mining Division, approximately 45km west of Port Hardy, BC, Vancouver Island B.C. The geographic coordinates of the approximate property centre are 50 42.5' N latitude 127 57.8' W longitude (Figures 2).

Table 1: Mineral Tenures

Record No.	Claim Name	Issue Date	Good to Date	New Good to Date	Area Hec.
513909		1966/Dec/13	2017/Dec/11	2017/Dec/11	81.85
1019755		2005/Jun/03	2017/May/24	2019/Oct/11	511.70

The claims are currently registered in the name of North Island Mining Corp., a wholly owned subsidiary of Northisle Copper and Gold Inc.



Location Map Red Dog East Property, Fig. 1

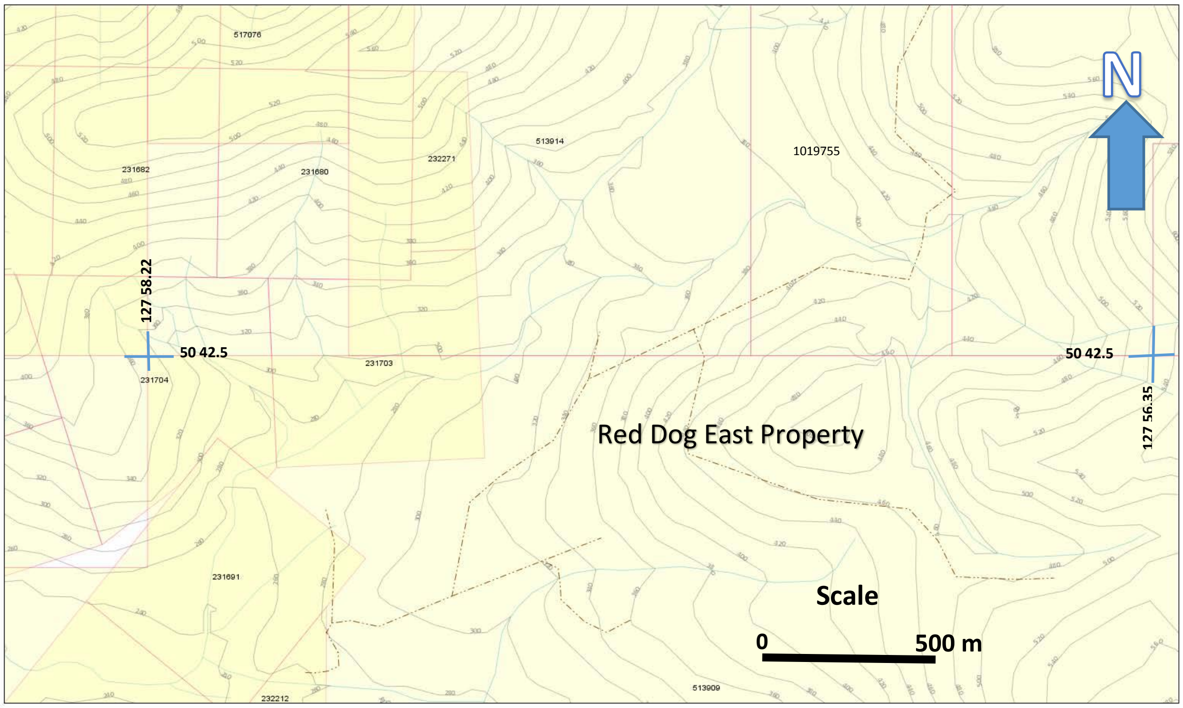


Fig. 2 Claim Location Map NAD 83 Zone 9

3.3 Physiography and Climate

The area is characterized by moderate relief in the order of 150 metres between valley bottoms and hill tops. Slopes are generally moderate although some areas are steep.

With the exception of small areas adjacent to the Goodspeed River, the entire area of interest was clear-cut logged within the past 10 years. Secondary growth has not yet established and traversing can be difficult particularly in areas of the most recent logging.

Climate in the area of the Property is typical of coastal areas of British Columbia with an annual precipitation of 3,911mm, and a daily average temperature of 8.8°C (Environment Canada, 1971-2000). Winters are very wet, with 75% of the annual precipitation occurring from October to March, mostly as rainfall at lower elevation (Holberg is at sea level), but with significantly increasing percentage of snowfall accumulation above 300 m elevation. Generally, exploration and development work is possible for most of the year, allowing for a long exploration field season.

4.0 HISTORY

There is no documented historical work within the area of the current study.

5.0 REGIONAL GEOLOGY

The regional geology of the Rupert area was mapped by Nixon et al. (2006) and the following summary is a synopsis of Nixon's paper. Figure 3 shows the bedrock geology of northern Vancouver Island. Vancouver Island is comprised of Upper Paleozoic to Lower Mesozoic rocks of Wrangellia – a tectonostratigraphic terrane that occurs discontinuously northward as far as central Alaska. This terrane was amalgamated to the Alexander Terrane of the Alaskan Panhandle (together comprising the Insular Superterrane) by Late Carboniferous time. Subsequently, these terranes were accreted to North America between the Middle Jurassic and the mid-Cretaceous. Thus, Vancouver Island records an early allochthonous history, and a later history with commonality to the North American margin.

The pre-accretion history of Wrangellia is represented by the Paleozoic Sicker Group and the Middle Triassic Karmutsen Formation. The Sicker Group comprises marine Devonian to Early Permian volcanic and sedimentary rocks that host VMS deposits such as at Myra Falls. The Karmutsen conformably overlies the Sicker Group and comprises basaltic and minor sedimentary rocks that underlie about 50% of Vancouver Island. This unit is up to 6000 m thick. Richards et al. (1991) argued that the Karmutsen was initiated by, and extruded above a mantle plume and recent geochemical data support an oceanic plateau origin for the Karmutsen (Greene et al., 2006). The Karmutsen is in turn conformably overlain by the Quatsino Formation of limestone consistent with a period of quietude following impingement of a mantle plume.

The Bonanza Arc (DeBari et al., 1999) formed along the length of Vancouver Island during accretion of Wrangellia. Owing to later tiling, products of this arc from various crustal depths are all preserved. These include the Westcoast Crystalline Complex, Island Intrusions and the Bonanza Group volcanic rocks. DeBari et al. (1999) argue that all these components have similar ages and geochemical signatures and that they are therefore all products of a single arc. Ages for these rocks range from ca 190 to 169 Ma. Intrusive rocks of the Island Intrusions are responsible for porphyry copper mineralization on Vancouver Island.

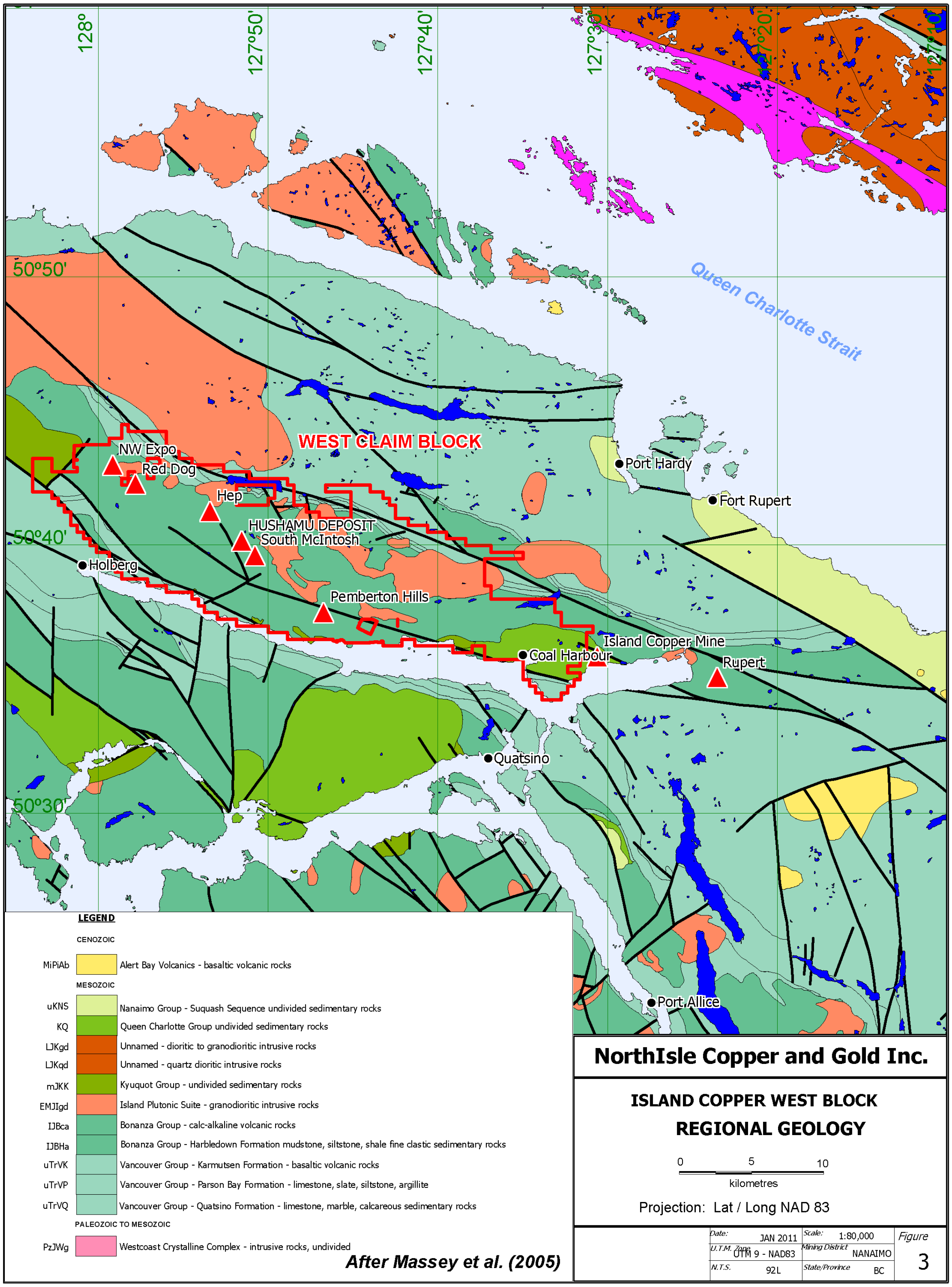


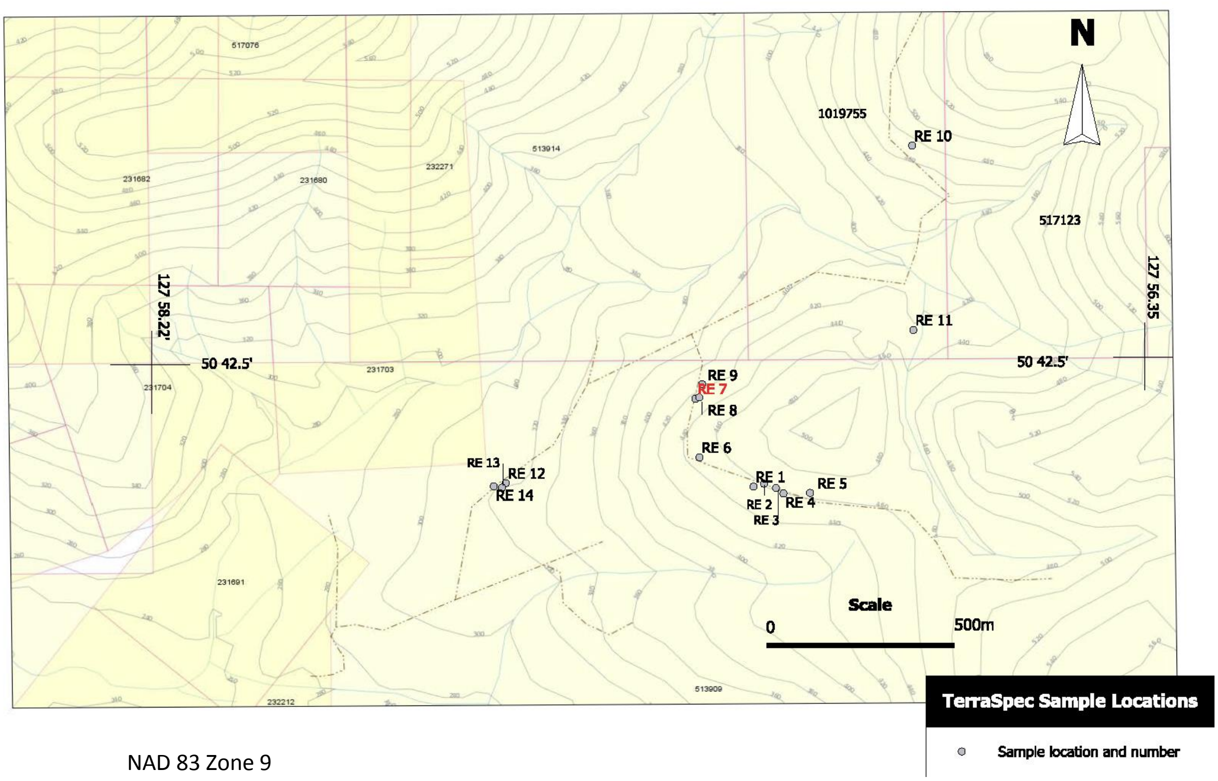
Fig. 3 Regional Geology

6.0 TERRASPEC SURVEY

6.1 SURVEY

In 2016, prospecting of the eastern part of mineral claim 513909 located rusty weathering hydrolytically altered rocks in outcrops in the eastern portion of the alteration halo associated with the Red Dog Deposit. To assist with characterization of rock and alteration types noted in the 2016, 14 rock samples were selected for TerraSpec spectral analysis. Figures 4 shows the site location of TerraSpec samples. The geographic co-ordinates of the site locations of the TerraSpec samples are in Appendix II. A report by K Heberlein, P. Geo describing the results of the spectral analysis is provided in Appendix I.

Rock samples used in the spectral analysis were collected from outcrops using a geological hammer. Specimens were trimmed using the hammer to ensure at least two clean faces were exposed. The sample was then placed into a cloth bag, numbered with a felt marker pen and the location of the sample measured with a handheld GPS unit.



NAD 83 Zone 9

Fig. 4

6.2 Results

The results of the TerraSpec analyses were grouped by key mineralogical suites into categories of porphyry copper related alteration types summarized in Table 2 and shown in Figure 5.

Table 2 Alteration Classification

Alteration Type	Diagnostic Minerals
Advanced Argillic	Pyrophyllite, dickite, diaspore +/-zunyite, topaz
Phyllic	Illite,
Intermediate Argillic	Illite, chlorite
Propylitic	Chlorite, epidote

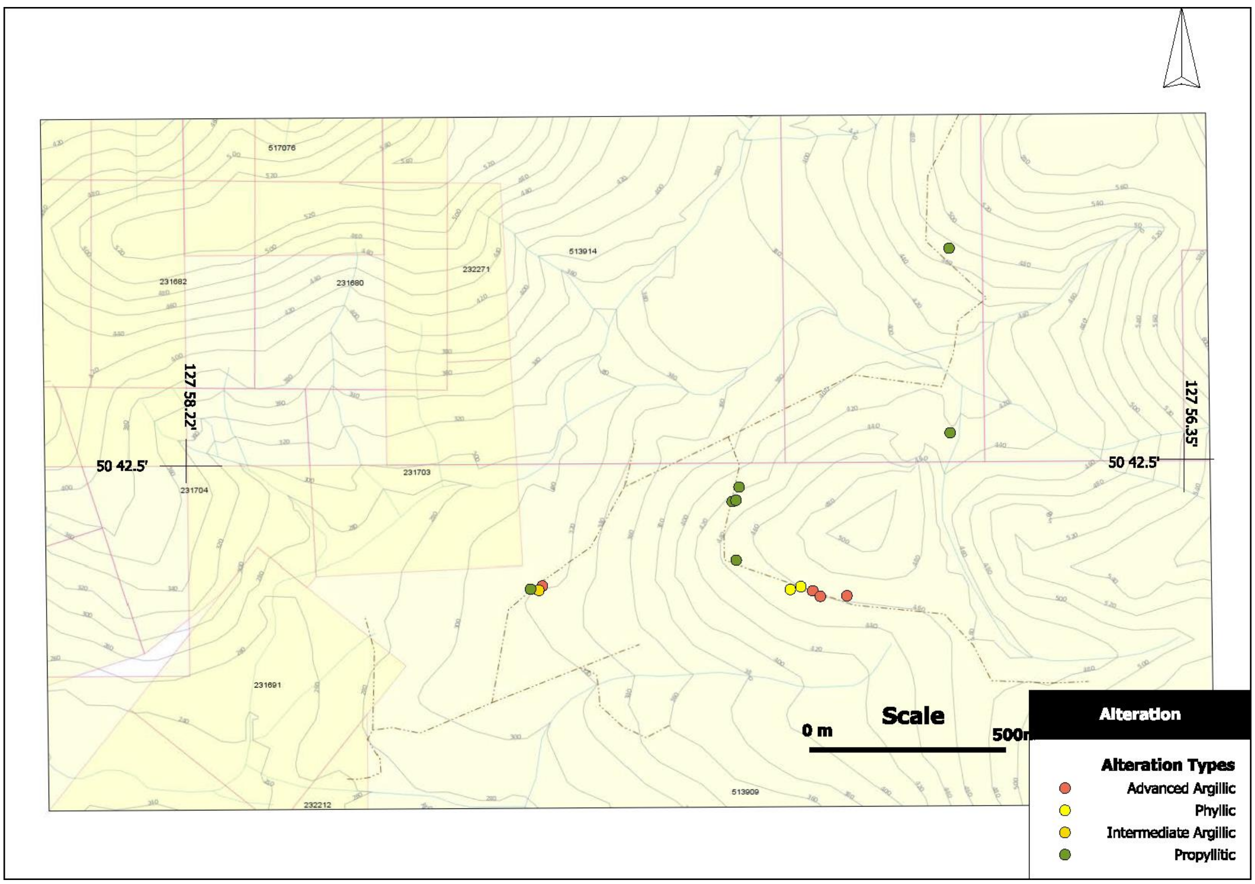


Fig. 5

7.0 CONCLUSIONS

The TerraSpec analyses shows a range of alteration types present in the samples from propylitic to advanced argillic alteration. In general, the area of advanced argillic and phyllic alteration occurs in the western and southwestern part of the study area. Further east and to the north, propylitic alteration is present.

8.0 RECOMMENDATIONS

It is recommended that additional prospecting and sampling of outcrops be done to the south and west of the current area of sampling.

9.0 STATEMENT of COSTS

Preparatory Work

9 February 2017
J. McClintock: Planning / Maps / Supplies 2hrs@ $100/ hr **$ 200.00**

Field Related

John McClintock P. Eng: Sampling and travel
15 February through 16 February: 10hrs @ $100 / hr $1,000.00

Accommodation Port Hardy $69.00

Meals Port Hardy $50.30

Truck and fuel, 1.25 days @ $75 per day $93.75

TerraSpec Spectral Analysis K Heberlein	$540.15	
		$ 1,753.20
Report Preparation		
J. McClintock P.Eng 14 May, 6hrs@$100/hr	$600.00	
		$ 600.00
Total Expenditures		**$ 2,553.20**

10.0 REFERENCES

DeBari, S. M., Anderson, R. G., and Mortensen, J. K., 1999, Correlation among lower to upper crustal components in an island arc: the Jurassic Bonanza arc, Vancouver Island, Canada: Canadian Journal of Earth Sciences, v. 36, p. 1371-1413.

Greene, A. R., Scoates, J. S., Nixon, G. T., and Weis, D., 2006, Picritic Lavas and Basal Sills in the Karmutsen Flood Basalt Province, Wrangellia, Northern Vancouver Island, BC. British Columbia Geological Survey, pp. 39-54.

Nixon, G. T., **Hammack, J. L., Koyanagi, V. M., Payie, G. J., Haggart, J. W., Orchard, M. J., Tozer, T., Archibald, D. A., Friedman, R. M., Palfy, J., and Cordey, F., 2000**, Geology of the Quatsino-Port McNeill Map Area, Northern Vancouver Island, B.C. Ministry of Energy and Mines Geoscience Map 2000-6.

Nixon, G. T., Hammack, J. L., Payie, G. J., Snyder, L. D., Koyanagi, V. M., Hamilton, J. V., Panteleyev, A., Massey, N. W. D., Haggart, J. W., and Archibald, D. A., 1997, Geology of Northern Vancouver Island: Preliminary Compilation, B.C. Ministry of Energy and Mines Open File 1997-13.

Nixon, G. T., Kelman, M. C., Stevenson, D., Stokes, L. A., and Johnston, K. A., 2006, Preliminary Geology of the Nimpkish Map Area (NTS 092L/07), Northern Vancouver Island, British Columbia. British Columbia Geological Survey, pp. 135-152.

Nixon, G.T., et al. 2006: Geology of the Holberg – Winter Harbour area, northern Vancouver Island; BC Ministry of Energy Mines and Petroleum Resources, Geoscience Map 20011-3.

Richards, M. A., Jones, D. L., Duncan, R. A., and DePaolo, D. J., 1991, A mantle plume initiation model for the Wrangellia flood basalt and other oceanic plateaus: Science, v. 254, p. 263-267

11.0 CERTIFICATION

I, John McClintock, residing at 902 – 1470 Pennyfarthing Drive, Vancouver, British Columbia, do hereby certify that:

1. I am a consulting Geologist;
2. I obtained a BSc (Hons) from the University of British Columbia in 1973 and an MBA from Simon Fraser University in 1989;
3. I have continually practised my profession as a geologist since 1973;
4. I am a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia registration number 12078;
5. I visited the property on 19 February and am responsible for the work carried out on the property;
6. I own shares and have share options in Northisle Copper and Gold Inc. and am the President of the company.

Dated at Vancouver, British Columbia, May 14, 2015

Appendix I

Report by K. Heberlein P.Geo

Kim Heberlein
21146 Stonehouse Avenue
Maple Ridge, B.C.
Canada V2X 8L9
Cell: 778-228-5231
Tel: 604-466-2087

6th March 2017

Northisle Copper and Gold Inc
1800 – 570 Granville Street
Vancouver, BC
V6C 3P1

Attn: Jack McClintock
Re: TerraSpec Analysis (KH237/Red Dog)

TerraSpec spectral analysis was run on 14 grab samples from the Red Dog area of Vancouver Island. A minimum of two readings were taken off each sample. Spectral quality ranged from good to excellent. Some spectra were noisy due to the presence of disseminated sulphides. The results are on the attached Excel sheet.

Minerals identified include zunyite, pyrophyllite, diaspore, dickite, kaolinite, illite, smectite, kaolinite, chlorite, epidote, amphibole, zeolite, Fe oxy/hydroxides, probable silica and possible alunite. Illite-smectite are the most common.

Smectites include montmorillonite, beidellite (Al smectite – RE1, 11) and probable Fe and/or Mg smectite (RE7, 8).

Illite composition ranges from “normal” potassic to high Al (paragonitic; wavelengths below 2200nm). Crystallinity varies from smectite-illite to highly crystalline

Chlorite compositions range from intermediate Mg>Fe to Fe-rich.

Zeolite is identified in two samples on fracture surfaces, associated with smectite.

Carbonates are indicated in a few samples but do not show up well as they are mixed with mafic minerals. The shape of the spectra in the VIS range suggests Fe carbonate.

Epidote is also likely present in more samples than it was definitely identified in, as it is mixed with chlorite.

Amphibole spectra are identified in a few samples. The upper wavelengths are somewhat noisy but appear to be likely actinolite.

Pyrophyllite is identified in a number of samples with diaspore, kaolinite and/or possible dickite RE3-5, 12)

Zunyite is also likely present with pyrophyllite in sample RE5, rather than alunite

Fe oxy/hydroxides include goethite and hematite.

Silica is not infrared active but is suggested by the presence of large water features in the spectra.

If you have any questions regarding this analysis, please don't hesitate to contact me.

Best Regards

Kim Heberlein, P.Geo.
kimheberlein@telus.net

TSP SPECTRAL ANALYSIS
Red Dog

SAMPLE ID	2200 WAVE	2250 WAVE	2300 WAVE	Fe E WAVE	ALUN WAVE	ALUN	ZUNY	PYRO	DIAS	DIK	KAO	HiX ILL	ILL	SMEC	CHL	EPID	AMPH	CAR	GOE	HEM	ZEO	SIL	COMMENTS	Mineral ID_1	Mineral ID_2	Mineral ID_3
RE01.000	2196	NULL	2345	NULL	NULL								X										Offwhite v soft gm/gy qe	Illite_Hi Al		
RE01.001	2196	NULL	2343	771	NULL								X	x					x				Fract	Illite_Hi Al	Beidellite	
RE02.000	2196	NULL	2344	788	NULL								X						x				Offwhite v soft powdery/FeOx fract	Illite_Hi Al		
RE02.001	2196	NULL	2342	800	NULL								X						x			x?	Fract	Illite_Hi Al		Silica?
RE3.000	2194	NULL	2347	764	NULL			p					X						x			x?	Offwhite mod soft, FeOx mottled throught	Illite_Hi Al		Pyrophyllite?
RE3.001	2195	2244	2345	786	NULL			p					X						x			x?		Illite_Hi Al		Pyrophyllite?
RE4.000	2167	NULL	NULL	NULL	NULL			X		q	p	x											Gywhite aph, v soft soapy	Pyrophyllite	Illite	Kaolinite?
RE4.001	2167	NULL	NULL	NULL	NULL			X			x											x?		Pyrophyllite	Kaolinite	Silica?
RE5.000	2167	NULL	NULL	NULL	1476	q	x	X			q												Pale bn/gn mottled, v soft soapy feeling	Pyrophyllite	Zunyite	Alunite?
RE5.001	2167	NULL	NULL	NULL	1476	q	x	X	x		q													Pyrophyllite	Zunyite	Diaspore
RE6.000	2207	2251	2324	795	NULL									p	x		x		x			X?	Med gy aph mod soft/diss sus. 2324/2395nm probable amphibole	Silica?	FeMg Chlorite	Amphibole?
RE6.001	2205	2251	2320	NULL	NULL									X	x		x						Amphibole 2320/2397 probable actinolite?	Montmorillonite	Amphibole	
RE7.000	NULL	2249	2326	NULL	NULL									x	p		X						Pale gybn mottled aph/fg soft, abundant fine diss sus	Amphibole	Fe/Mg smectite?	
RE7.001	NULL	2251	2330	NULL	NULL									x	p		X						2326/2395nm	Amphibole	Fe/Mg smectite?	
RE8.000	NULL	2247	2315	NULL	NULL									x	x		X						Pale gybn mottled aph/fg soft, abundant fine diss sus	Amphibole	Fe/Mg smectite?	MgFe Chlorite
RE8.001	NULL	2249	2314	NULL	NULL									x	x		X						2315/2391nm. Actinolite?	Amphibole	Fe/Mg smectite?	MgFe Chlorite
RE09.000	2209	2250	2338	NULL	NULL									X	X								Gy/white mottled mod soft/abund diss/blebby sus	Montmorillonite	FeMg Chlorite	
RE09.001	2213	2251	2341	NULL	NULL									X	x								Fract	Montmorillonite	FeMg Chlorite	
RE10.000	2205	2255	2343	NULL	NULL									x	X	p		q					Dk gn fg/white xln fracts/masses	Fe Chlorite	Montmorillonite	Epidote?
RE10.001	NULL	2261	NULL	NULL	NULL										x						X		Fract	Zeolite		Fe Chlorite?
RE11.000	2194	2255	2343	NULL	NULL									X	X	q							Gngy fg mod soft, fg diss sus	Fe Chlorite	Beidellite	
RE11.001	2207	2255	NULL	722	NULL									x	Tr			q			X		Fract	Zeolite	Montmorillonite	
RE12.000	2167	NULL	NULL	722	NULL			X	x		x											x?	Pale gybn mod soft soapy, diss sus	Pyrophyllite	Diaspore	Kaolinite
RE12.001	2167	NULL	NULL	742	NULL			X	x		x									x		x?	Fract	Pyrophyllite	Kaolinite	Silica?
RE13.000	2195	2253	2347	NULL	NULL							X			X								Med gngy mod soft, diss sus	Illite_Hi Al	FeMg Chlorite	
RE13.001	2196	2254	2345	NULL	NULL							X			X									Illite_Hi Al	FeMg Chlorite	
RE14.000	2207	2248	2330	NULL	NULL									X	q	x		p					Pale flesh pink fg mod soft, dissem blebby SUS	Montmorillonite	Epidote	Carbonate?
RE14.001	2209	2247	2314	NULL	NULL									X	x		x						Fract	Montmorillonite	MgFe Chlorite	Amphibole?

X=major spectral component;x=minor component;Tr=Trace;p=probable;q=questionable

K. Heberlein

Appendix II
Geographical Co-ordinates of TerraSpec Samples

lat	lon	elevation metres	Sample name	Alteration
50.70554	-127.952	399.55	RE 1	Phyl
50.70559	-127.951	455.31	RE 2	Phyl
50.70551	-127.951	459.63	RE 3	AdAr
50.7054	-127.951	458.67	RE 4	AdAr
50.7054	-127.95	467.80	RE 5	AdAr
50.70614	-127.953	444.01	RE 6	PROP
50.7073	-127.953	432.72	RE 7	PROP
50.70733	-127.953	402.92	RE 8	PROP
50.70759	-127.953	403.40	RE 9	PROP
50.71227	-127.946	454.10	RE 10	PROP
50.70861	-127.946	417.09	RE 11	PROP
50.70568	-127.959	327.21	RE 12	AdAr
50.70559	-127.959	345.48	RE 13	InArg
50.70562	-127.96	337.79	RE 14	PROP