

NI 43-101

RESOURCE ESTIMATE

FOR THE NORTH ISLAND PROJECT

2024 UPDATE

Location Description:
Centred at 5614500N and 580500 E
(NAD 83)



Prepared For:

NorthIsle Copper and Gold Inc.

Submission Date: November 8, 2024

Effective Date: September 23, 2024

Prepared by:

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Peter Mehrfert, P. Eng.

DATE & SIGNATURE PAGES

Herewith, our report entitled ‘Resource Estimate of the North Island Project’ dated November 8, 2024.

“signed and sealed”

Signature

Sue Bird, P.Eng.

Moose Mountain Technical Services

Associate and V.P. Resources

Dated the 8th of November 2024.

“signed and sealed”

Signature

Peter Mehrfert, P.Eng.

Ausenco Engineering Canada ULC

Dated the 8th of November 2024.

CERTIFICATE OF QUALIFIED PERSON

Sue Bird, M. Sc., P.Eng.

I, Sue Bird, M.Sc., P.Eng., certify that:

1. I am employed as a Geological and Mining Engineer with Moose Mountain Technical Services, with an office address of #210 1510 2nd Street North Cranbrook, BC V1C 3L2 with Permit to Practice # 1003309.
2. This certificate applies to the technical report titled, “NI43-101 Mineral Resource Estimate for the North Island Project, 2024 Update” (the “Technical Report”), prepared for NorthIsle Copper and Gold Inc. (the “Company”), with an effective date of September 23, 2024 (the “Effective Date”).
3. I graduated with a Geologic Engineering degree (B.Sc.) from the Queen’s University in 1989 and a M.Sc. in Mining from Queen’s University in 1993.
4. I am a member of the self-regulating association Engineers and Geoscientists BC (#25007).
5. I have worked as a geological and mining engineer for 30 years since my graduation from university. I have worked on precious metals, base metals and coal mining projects, including mine operations and evaluations. Similar resource estimate projects specifically include those done for Seabridge’s Courageous Lake project, Artemis’ Blackwater gold project, Ascot’s Premier Gold Project, CanaGold’s New Polaris Project and Spanish Mountain Gold, all in BC; O3’s Marban and Garrison gold projects in Quebec and Ontario, respectively, as well as numerous due diligence gold projects in the southern US done confidentially for various clients.
6. I have read the definition of “Qualified Person” set out in the National Instrument 43-101 Standards of Disclosure for Mineral Projects (“NI 43-101”) and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfill the requirements to be a “Qualified Person” for the purpose of NI 43-101.
7. I personally inspected the NorthIsle Project deposits on April 20, 2024, for a duration of 1 day.
8. I am responsible for 1.1 through 1.10, 1.12.1, 1.12.3, 1.12.4, 1.12.6, 2 through 12, 14 through 24 25.1, 25.2, 25.4, 26.1, 26.2, 26.4, and 27 of the Technical Report.
9. I am independent of the Company as independence is described by Section 1.5 of NI 43–101.
10. I previously prepared the Northwest Expo Resource Estimate for the News Release dated March 13, 2024.
11. I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with that Instrument. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make those sections of the Technical Report not misleading.

Dated: November 8, 2024.

“Signed and sealed”

Sue Bird, M. Sc., P. Eng.

CERTIFICATE OF QUALIFIED PERSON

Peter Mehrfert, M.Sc., P.Eng.

I, Peter Mehrfert, M.Sc., P.Eng., certify that: I, Peter Mehrfert, P.Eng., certify that:

1. I am employed as a Process Engineer with Ausenco Engineering Canada ULC, with an office at 1050 W Pender St, Vancouver, BC V6E 3S7 with Permit to Practice # 1001905.
2. This certificate applies to the technical report titled, “NI43-101 Mineral Resource Estimate for the North Island Project, 2024 Update” (*the “Technical Report”*), prepared for NorthIsle Copper and Gold Inc. (the “Company”), with an effective date of September 23, 2024 (the “Effective Date”).
3. I graduated from the University of British Columbia in 1996 where I obtained a Bachelor of Applied Science in Mining and Mineral Processing Engineering.
4. I am a Professional Engineer, registered with the association Engineers and Geoscientists of British Columbia, member #24527.
5. I have practiced my profession continuously for 28 years and have been involved in the design, evaluation and operation of mineral processing facilities during that time. Approximately half of my professional practice has been the supervision and management of metallurgical test work related to feasibility and prefeasibility studies of projects involving flotation technologies. Previous projects that I have worked on that have similar features to the North Island Project are Courageous Lake, Spanish Mountain Gold, Mt Milligan, Berg, Kwanika and Red Chris.
6. I have read the definition of “Qualified Person” set out in the National Instrument 43-101 Standards of Disclosure for Mineral Projects (“NI 43-101”) and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfill the requirements to be a “Qualified Person” for the purpose of NI 43-101.
7. I have not visited the NorthIsle Project site.
8. I am responsible for 1.10, 1.11, 1.12.2, 1.12.5, 13, 25.3, 26.3 and 27 of the Technical Report.
9. I am independent of the Company as independence is described by Section 1.5 of NI 43–101.
10. I have had previous involvement with NorthIsle through management of the 2023 metallurgical test program.
11. I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with that Instrument. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make those sections of the Technical Report not misleading.

Dated: November 8, 2024

“Signed and sealed”

Peter Mehrfert, M. Sc., P. Eng.

TABLE OF CONTENTS

1.0	Summary	14
1.1	Introduction	14
1.2	Mineral Resource Estimate.....	14
1.3	Terms of Reference	16
1.4	Project Setting	16
1.5	Mineral Tenure	16
1.5.1	Royalties and Encumbrances	16
1.6	Surface Rights	17
1.7	Accessibility, Climate, Local Resources, Infrastructure and Physiography.....	17
1.8	History	17
1.9	Drilling and Exploration	17
1.10	Sample Preparation Analysis and Security	18
1.11	Metallurgy	18
1.12	Conclusions and Recommendations.....	19
1.12.1	Sampling, Preparation, Analysis Conclusions	19
1.12.2	Metallurgical Testwork Conclusions	19
1.12.3	Resource Estimate Conclusions	19
1.12.4	Sampling, Preparation, Analysis Recommendations	19
1.12.5	Metallurgical Recommendations.....	19
1.12.6	Resource and Exploration Recommendations.....	20
2.0	Introduction	21
2.1	Terms of Reference	21
2.2	Qualified Persons.....	21
2.3	Site visits and Scope of Personal Inspection	21
2.4	Effective Date	21
2.5	Sources of Information	21
3.0	Reliance on Other Experts	22
3.1	Mineral Tenure and Surface Rights	22
3.2	Royalties and Encumbrances.....	22
4.0	Property Description and Location.....	23
4.1	Surface Rights	1
4.2	Royalties and other Encumbrances.....	1
4.3	Environmental Liabilities and Permits	1
4.4	Community Engagement	1
5.0	Accessibility, Climate, Local Resources, Infrastructure and Physiography	3
6.0	History.....	4
6.1	Hushamu.....	4
6.2	Red Dog	5
6.3	Northwest Expo	6
6.4	Goodspeed.....	6
6.5	Pemberton Hills	7
7.0	Geological Setting and Mineralization	12
7.1	Regional Geology.....	12
7.2	Property Geology.....	14

7.3	Hushamu Deposit Geology	15
7.3.1	Lithology - Hushamu	15
7.3.2	Alteration - Hushamu	16
7.3.3	Mineralization	18
7.3.4	Structure - Hushamu	18
7.4	Northwest Expo Deposit Geology.....	19
7.4.1	Lithology – Northwest Expo	19
7.4.2	Alteration – Northwest Expo.....	19
7.4.3	Mineralization	21
7.4.4	Structure – Northwest Expo.....	22
7.5	Red Dog Deposit Geology	23
7.5.1	Lithology.....	23
7.5.2	Alteration	24
7.5.3	Mineralization	26
7.5.4	Structure.....	26
7.6	Goodspeed Prospect Geology	26
7.7	Pemberton Hills Prospect Geology.....	28
8.0	Deposit Types	30
9.0	Exploration.....	32
9.1	Hushamu.....	32
9.2	Northwest Expo	32
9.3	Red Dog	32
10.0	Drilling.....	33
10.1	Hushamu.....	33
10.1.1	NorthIsle Drilling at Hushamu – 2012-2022	33
10.2	Northwest Expo Drilling by NorthIsle – 2021-2022.....	36
10.3	Drilling at Northwest Expo, Pemberton Hills and Goodspeed – 2023	36
10.3.1	Core Processing – 2023.....	37
10.4	Red Dog Drilling	38
10.4.1	Red Dog Drilling by NorthIsle – 2016-2022.....	38
11.0	Sample Preparation, Analyses and Security	41
11.1	Hushamu and Red Dog Historical Sampling Procedures and Security	41
11.1.1	Red Dog 1982.....	41
11.1.2	Red Dog 1983.....	41
11.1.3	Hushamu 1985.....	41
11.1.4	Hushamu and Red Dog 1988	41
11.1.5	Red Dog 1989.....	41
11.1.6	Hushamu and Red Dog 1990	42
11.1.7	Red Dog 1991.....	42
11.1.8	Hushamu 1991-1994.....	42
11.2	Hushamu and Red Dog Sampling Procedures and Security from 2005-2022	42
11.2.1	Hushamu and Red Dog – 2005.....	42
11.2.2	Hushamu and Red Dog – 2008.....	43
11.2.3	Hushamu and Red Dog – 2011.....	45
11.2.4	Hushamu - 2012.....	45
11.2.5	Hushamu – 2014-2017.....	46

11.2.6	Red Dog - 2016.....	47
11.2.7	Hushamu and Red Dog – 2021-2022	47
11.3	Northwest Expo 2021-2023.....	49
11.4	QA/QC Analysis - Hushamu and Red Dog.....	50
11.5	Blanks – Hushamu and Red Dog.....	50
11.5.1	Certified Reference Materials – Hushamu and Red Dog	55
11.5.2	Duplicates for Hushamu and Red Dog	60
11.5.3	Check Assays 2005, 2008, 2011-2012, 2016.....	67
11.6	QA/QC Analysis - Northwest Expo.....	72
11.6.1	Blanks – Northwest Expo	72
11.6.2	Certified Reference Materials – Northwest Expo	75
11.6.3	Duplicates – Northwest Expo.....	79
11.6.4	Check Assays 2005 – Northwest Expo	83
11.7	QA/QC Conclusions and Recommendations	85
12.0	Data Verification.....	87
12.1	Site Visit	87
12.2	Data Audit – Hushamu and Red Dog	87
12.3	Data Audit – Northwest Expo	88
12.4	Data Verification of Historic Assays.....	88
12.4.1	Hushamu – Historic Drilling Validation	89
12.4.2	Red Dog – Historic Drilling Validation.....	92
13.0	Mineral Processing and Metallurgical Testing	94
13.1	Metallurgical Testing	94
13.1.1	Metallurgical Sample Origin.....	95
13.2	Mineralogical Data.....	95
13.2.1	Hushamu Mineralogy.....	95
13.2.2	Red Dog Mineralogy	96
13.2.3	Northwest Expo Mineralogy	96
13.3	Comminution Results	96
13.4	Flotation Results.....	96
13.4.1	Minor Element Analysis of the Concentrate.....	98
13.5	Cyanide Leaching of Flotation Products	99
13.6	Recovery Analysis	100
14.0	Mineral Resource Estimates	101
14.1	Mineral Resource Estimate.....	101
14.2	Key Assumptions and Data used in the Estimate	105
14.3	Geologic Modelling.....	107
14.4	Capping.....	109
14.5	Compositing.....	114
14.6	Variography	115
14.7	Block Model Interpolations	121
14.8	Classification	122
14.9	Block Model Validation.....	124
14.9.1	Comparison of Tonnage and Grades	124
14.10	Visual Validation.....	130
14.11	Reasonable Prospects of Eventual Economic Extraction	135

14.12	Factors That May Affect the Mineral Resource Estimate	136
14.13	Risk Assessment	136
15.0	Mineral Reserve Estimates	137
16.0	Mining Method	138
17.0	Recovery Methods	139
18.0	Project Infrastructure.....	140
19.0	Market Studies and Contracts	141
20.0	Environmental Studies, Permitting and Social or Community Impact	142
21.0	Capital and Operating Costs	143
22.0	Economic Analysis.....	144
23.0	Adjacent Properties	145
24.0	Other Relevant Data and Information.....	146
25.0	Interpretation and Conclusions	147
25.1	Geology.....	147
25.2	Data Verification.....	147
25.3	Metallurgical Testwork.....	147
25.4	Resource Estimate	147
26.0	Recommendations	148
26.1	Sample Preparation, Analyses and Security	148
26.2	Data Verification.....	148
26.3	Metallurgy	148
26.4	Further Studies	148
26.5	Exploration and Resource.....	148
26.5.1	Hushamu	148
26.5.2	Northwest Expo	149
26.5.3	Red Dog.....	149
26.5.4	Goodspeed.....	149
26.6	Exploration Program and Budget	149
27.0	References.....	150
APPENDIX A – CLAIM INFORMATION		154

LIST OF TABLES

Table 1-1	Mineral Resource Estimate for the Total North Island Project.....	15
Table 1-2	Exploration Budget.....	20
Table 6-1	Exploration History on North Island Project Property and Region	8
Table 11-1	QA/QC Sample Summary for Hushamu and Red Dog – (2005-2023)	50
Table 11-2	Blanks by Year for Hushamu and Red Dog (2005 - 2023)	51
Table 11-3	Certified Reference Materials Detail for Hushamu and Red Dog	56
Table 11-4	CRMs Count and Insertion Rate by Year 2005-2022 for Hushamu and Red Dog.....	56
Table 11-5	CRM Performance Details for Hushamu and Red Dog - Au	57
Table 11-6	CRM Performance Details for Hushamu and Red Dog - Cu.....	58
Table 11-7	CRM Performance Details Mo.....	59
Table 11-8	QA/QC Sample Summary – Northwest Expo.....	72
Table 11-9	Blanks by Year – Northwest Expo.....	73
Table 11-10	CRMs Count and Insertion Rate by Year – Northwest Expo	76
Table 11-11	CRM Performance Details – Northwest Expo, Au	76
Table 11-12	CRM Performance Details – Northwest Expo, Cu	77
Table 11-13	CRM Performance Details – Northwest Expo, Mo	78
Table 12-1	Final Assay Data Validation Stats Hushamu and Red Dog.....	88
Table 12-2	Final Assay Data Validation Stats Northwest Expo	88
Table 13-1	Summary of Metallurgical Programs	94
Table 13-2	Drillholes Sampled for Metallurgical Composites	95
Table 13-3	Summary Flotation Test Data.....	97
Table 13-4	Minor Elements – Locked Cycle Flotation Concentrates	99
Table 13-5	Flotation Tailings Leach Results	99
Table 13-6	Total Circuit Recovery Estimates.....	100
Table 14-1	Mineral Resource Estimate for the North Island Project	102
Table 14-2	Mineral Resource Estimate for Hushamu	103
Table 14-3	Mineral Resource Estimate for Northwest Expo.....	104
Table 14-4	Mineral Resource Estimate for Red Dog	105
Table 14-5	Summary of Hushamu Drillhole Data within Block Model.....	106
Table 14-6	Summary of Northwest Expo Drillhole Data within Block Model	106
Table 14-7	Summary of Red Dog Drillhole Data within Block Model	107
Table 14-8	Summary of Capping and Outlier Restriction Values.....	112
Table 14-9	Assay and Composite Statistics by Domain – Hushamu	113
Table 14-10	Assay and Composite Statistics by Domain – Northwest Expo	114
Table 14-11	Assay and Composite Statistics by Domain – Red Dog	114
Table 14-12	Variogram Parameters – Hushamu	115
Table 14-13	Variogram Parameters - Northwest Expo	116
Table 14-14	Variogram Parameters – Red Dog.....	116
Table 14-15	Block Model Limits	121
Table 14-16	Search Rotation and Distances – Hushamu	121
Table 14-17	Search Rotation and Distances – Northwest Expo.....	121
Table 14-18	Search Rotation and Distances – Red Dog	122
Table 14-19	Additional Search Criteria	122
Table 14-20	Classification Criteria.....	122

Table 14-21	Comparison of De-clustered Composite and OK Modelled Grades for Au and Cu – All Deposits.....	125
Table 14-22	Comparison of De-clustered Composite and OK Modelled Grades for Mo and Re – Hushamu	125
Table 14-23	Economic Inputs and Metallurgical Recoveries	136
Table 14-24	List of Risks and Mitigations/Justifications	136
Table 26-1	Recommended Exploration Budget	149

LIST OF FIGURES

Figure 4-1	North Island Project Location (UTM NAD 83 Coordinate system)	1
Figure 4-2	North Island Project Tenure	1
Figure 7-1	North Island Project Stratigraphy.....	13
Figure 7-2	Regional Geology of Northern Vancouver Island.....	14
Figure 7-3	Geology and Alteration of the Hushamu Deposit Area.....	17
Figure 7-4	Plan Map of Alteration and Structures at Hushamu	17
Figure 7-5	Northwest Expo Alteration Zones	20
Figure 7-6	Northwest Expo Deposit Simplified Alteration Plan	22
Figure 7-7	Red Dog Deposit Lithology	24
Figure 7-8	Red Dog Deposit Alteration.....	25
Figure 7-9	Alteration and drillholes in Goodspeed target area Pemberton Hills Prospect Geology .	28
Figure 7-10	Pemberton Hills area geology/alteration and drillholes	29
Figure 10-1	Plan Map of Drillholes – Hushamu	35
Figure 10-2	Drillhole Section – Hushamu	35
Figure 10-3	Plan Map of Drillholes – NW - Expo	37
Figure 10-4	Drillhole Section - NW – Expo	38
Figure 10-5	Plan Map of Drillholes – Red Dog.....	39
Figure 10-6	Drillhole Long Section - Red Dog.....	40
Figure 11-1	2005-2022 Blanks Performance for Hushamu and Red Dog, Au	52
Figure 11-2	2005-2022 Blanks Performance for Hushamu and Red Dog, Cu.....	53
Figure 11-3	2005-2022 Blanks Performance for Hushamu and Red Dog, Mo	54
Figure 11-4	2005-2022 Blanks Performance for Hushamu and Red Dog, Re.....	55
Figure 11-5	Normalized Process Control Chart for Hushamu and Red Dog, Au	57
Figure 11-6	Normalized Process Control Chart for Hushamu and Red Dog, Cu.....	59
Figure 11-7	Normalized Process Control Chart for Hushamu and Red Dog, Mo	60
Figure 11-8	Field Duplicate Scatter Plot 2014-2022 for Hushamu and Red Dog, Au	61
Figure 11-9	Field Duplicate Scatter Plot 2014-2022 for Hushamu and Red Dog, Cu	62
Figure 11-10	Field Duplicate Scatter Plot 2014-2022 for Hushamu and Red Dog, Mo	62
Figure 11-11	Field Duplicate Scatter Plot 2014-2022 for Hushamu and Red Dog, Re	63
Figure 11-12	Core check Scatter Plot 2012 for Hushamu and Red Dog, Au.....	64
Figure 11-13	Core check Scatter Plot 2012 for Hushamu and Red Dog, Cu.....	65
Figure 11-14	Core check Scatter Plot 2012 for Hushamu and Red Dog, Mo.....	66
Figure 11-15	Core check Scatter Plot 2012 for Hushamu and Red Dog, Re	66
Figure 11-16	Check-assay Scatter Plot 2011-2012 for Hushamu and Red Dog, Au	67
Figure 11-17	Check-assay Scatter Plot 2011-2012 for Hushamu and Red Dog, Cu.....	68
Figure 11-18	Check-assay Scatter Plot 2011-2012 for Hushamu and Red Dog, Mo	68
Figure 11-19	Check-assay Scatter Plot 2011-2012 for Hushamu and Red Dog, Re.....	69
Figure 11-20	Check-assay Scatter Plot 2016 for Hushamu and Red Dog, Au.....	70
Figure 11-21	Check-assay Scatter Plot 2016 for Hushamu and Red Dog, Cu	70
Figure 11-22	Check-assay Scatter Plot 2016 for Hushamu and Red Dog, Mo.....	71
Figure 11-23	Check-assay Scatter Plot 2016 for Hushamu and Red Dog, Re	71
Figure 11-24	2005-2023 Blanks Performance – Northwest Expo, Au	73
Figure 11-25	2005-2023 Blanks Performance – Northwest Expo, Cu	74
Figure 11-26	2005-2023 Blanks Performance– Northwest Expo, Mo.....	75
Figure 11-27	2005-2023 CRM Performance – Northwest Expo, Au.....	77

Figure 11-28	2005-2023 CRM Performance – Northwest Expo, Cu	78
Figure 11-29	2005-2023 CRM Performance – Northwest Expo, Mo.....	79
Figure 11-30	Field Duplicate Scatter Plot 2007-2023 – Northwest Expo, Au.....	80
Figure 11-31	Field Duplicate Scatter Plot 2007-2023 – Northwest Expo, Cu.....	80
Figure 11-32	Field Duplicate Scatter Plot 2007-2023 – Northwest Expo, Mo.....	81
Figure 11-33	Field Duplicate Scatter Plot 2007-2023– Northwest Expo, Re.....	81
Figure 11-34	Coarse Reject Duplicate Scatter Plot 2005 – Northwest Expo, Au.....	82
Figure 11-35	Coarse Reject Duplicate Scatter Plot 2005 – Northwest Expo, Cu.....	83
Figure 11-36	Coarse Reject Duplicate Scatter Plot 2005 – Northwest Expo, Mo.....	83
Figure 11-37	Check-assay Scatter Plot 2005 – Northwest Expo, Au	84
Figure 11-38	Check-assay Scatter Plot 2005 – Northwest Expo, Cu.....	84
Figure 11-39	Check-assay Scatter Plot 2005, Mo	85
Figure 12-1	Comparison of Au Assays with and without Certificates for Hushamu - 1970s.....	89
Figure 12-2	Comparison of Au Assays with and without Certificates for Hushamu - 1980s.....	90
Figure 12-3	Comparison of Au Assays with and without Certificates for Hushamu - 1990s.....	90
Figure 12-4	Comparison of Cu Assays with and without Certificates for Hushamu - 1970s.....	91
Figure 12-5	Comparison of Cu Assays with and without Certificates for Hushamu - 1980s.....	91
Figure 12-6	Comparison of Cu Assays with and without Certificates for Hushamu - 1990s.....	92
Figure 12-7	Comparison of Au Assays with and without Certificates for Red Dog - 1980s – 1990s....	92
Figure 12-8	Comparison of Cu Assays with and without Certificates for Red Dog – 1980s - 1990s	93
Figure 13-1	Schematic of Locked Cycle Test Flowsheet	98
Figure 14-1	Hushamu Deposit – Alteration and Mineralized Domain	107
Figure 14-2	Northwest Expo Deposit – Alteration and Mineralized Domain.....	108
Figure 14-3	Red Dog – Alteration and Mineralized Domain	108
Figure 14-4	CPP of Au Assay Data by Domain – Hushamu.....	109
Figure 14-5	CPP of Cu Assay Data by Domain – Hushamu	110
Figure 14-6	CPP of Au Assay Data by Domain – Northwest Expo	110
Figure 14-7	CPP of Cu Assay Data by Domain – Northwest Expo	111
Figure 14-8	CPP of Au Assay Data by Domain – Red Dog.....	111
Figure 14-9	CPP of Cu Assay Data by Domain – Red Dog.....	112
Figure 14-10	Assay Lengths – All Deposits	115
Figure 14-11	Variogram Model for Cu in Domain 1 – Major and Minor Axes – Hushamu Deposit.....	117
Figure 14-12	Variogram Model for Au in Domain 1 – Major and Minor Axes – Hushamu Deposit.....	118
Figure 14-13	Variogram Model for Cu in Domain 5 – Major and Minor Axes – Northwest Expo Deposit	119
Figure 14-14	Variogram Model for Au in Domains 1-6 – Major and Minor Axes – Red Dog Deposit..	120
Figure 14-15	Classification - Hushamu	123
Figure 14-16	Classification – Northwest Expo.....	123
Figure 14-17	Classification – Red Dog	124
Figure 14-18	Tonnage-Grade Curves for Au – Hushamu.....	126
Figure 14-19	Tonnage-Grade Curves for Cu – Hushamu.....	126
Figure 14-20	Tonnage-Grade Curves for Mo – Hushamu.....	127
Figure 14-21	Tonnage-Grade Curves for Re –Hushamu.....	127
Figure 14-22	Tonnage-Grade Curves for Au –Northwest Expo	128
Figure 14-23	Tonnage-Grade Curves for Cu –Northwest Expo	128
Figure 14-24	Tonnage-Grade Curves for Au – Comparison of Interpolation Methods – Red Dog	129

Figure 14-25	Tonnage-Grade Curves for Cu – Comparison of Interpolation Methods - Red Dog	129
Figure 14-26	E-W Section Comparing Au Grades for Block Model and Assay Data - Hushamu	130
Figure 14-27	E-W Section Comparing Cu Grades for Block Model and Assay Data - Hushamu.....	131
Figure 14-28	E-W Section - Comparing Au Grades for Block Model and Assay Data – Northwest Expo	132
Figure 14-29	E-W Section - Comparing Cu Grades for Block Model and Assay Data – Northwest Expo	133
Figure 14-30	E-W Section Comparing Au Grades for Block Model and Assay Data – Red Dog	134
Figure 14-31	E-W Section Comparing Cu Grades for Block Model and Assay Data – Red Dog.....	135

1.0 Summary

1.1 Introduction

The authors have prepared an updated Mineral Resource Estimate (MRE) of the North Island Project located in the north of Vancouver Island, B.C., Canada for NorthIsle Copper and Gold Inc. (NorthIsle). The MRE includes the Hushamu, Northwest Expo and Red Dog deposits. NorthIsle is primarily focused on the development and advancement of the North Island Project and does not have any other material business.

1.2 Mineral Resource Estimate

The MRE is summarized in Table 1-1 for a range of cutoffs with the base case cutoff grade highlighted. Mineral Resources were estimated using the 2019 CIM Best Practice Guidelines and are reported using the 2014 CIM Definition Standards.

The MRE utilizes pit shells to constrain resources at the Hushamu, Northwest Expo and Red Dog gold-copper deposits. No underground extraction is considered for these deposits in this resource estimate. The current estimate has been produced with updated metal prices of US\$1,910/oz gold, US\$4.00/lb copper, US\$21/oz molybdenum and US\$1,777/kg rhenium, updated recoveries, smelter terms, and costs, relative to previous estimates, as summarized in the notes to Table 1-1. Metal prices have been chosen based partially on market research and on comparison to prices as quoted in numerous NI 43-101 reports for Au, Cu Mo, and Re. The metal prices chosen also considered the spot prices and the three-year trailing average prices. For all four metals, the final prices used for this resource estimate are below both the spot metal price and the three-year trailing average.

Base case cut-off grades for open pit mining are based on Processing plus G&A costs of CDN\$11.50/tonne processed. The Processing Cost only is \$10.00/tonne and is also summarized in the table. This is the marginal internal cutoff and does not include mining costs.

The model assumes a 1.0% NSR royalty for the Red Dog deposit only, the other deposits do not have any economically significant royalties or other encumbrances.

These mineral resource estimates include inferred mineral resources that are considered too speculative geologically to have economic considerations applied to them that would enable them to be categorized as mineral reserves. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

The QP is of the opinion that issues relating to all relevant technical and economic factors likely to influence the prospect of economic extraction can be resolved with further work. These factors may include environmental permitting, infrastructure, sociopolitical, marketing, or other relevant factors.

The effective date of the MRE is September 23, 2024.

Table 1-1 Mineral Resource Estimate for the Total North Island Project

Class	NSR Cutoff (\$CDN/tonne)	In Situ Tonnage and Grade						Cu Metal (Mlbs)	Au Metal (kOz)	Mo Metal (Mlbs)	Re Metal (klbs)	CuEq Metal (Mlbs)	NSR (\$CDN/tonne)
		Tonnage (ktonnes)	Cu (%)	Au (gpt)	Mo* (ppm)	Re* (ppm)	CuEq (%)						
Indicated	10	968,402	0.15	0.23	75	0.43	0.31	3,183	7,163	160	908	6,520	\$ 24.53
	11.5	905,922	0.16	0.24	75	0.42	0.32	3,107	6,939	149	847	6,330	\$ 25.48
	15	736,243	0.17	0.26	73	0.42	0.35	2,830	6,215	119	676	5,692	\$ 28.29
	20	508,221	0.20	0.31	71	0.40	0.41	2,279	5,018	79	445	4,579	\$ 33.18
	25	336,105	0.23	0.36	67	0.37	0.47	1,719	3,894	49	273	3,511	\$ 38.73
	30	221,789	0.26	0.42	63	0.34	0.54	1,259	2,985	31	166	2,652	\$ 44.59
	35	148,701	0.28	0.48	57	0.31	0.61	911	2,310	19	102	2,009	\$ 50.63
Inferred	10	233,749	0.12	0.21	53	0.31	0.27	602	1,581	27	161	1,381	\$ 21.59
	11.5	213,878	0.12	0.22	52	0.31	0.28	571	1,525	24	147	1,320	\$ 22.58
	15	156,463	0.13	0.26	52	0.31	0.32	455	1,310	18	109	1,104	\$ 25.96
	20	78,849	0.14	0.36	46	0.29	0.42	252	920	8	51	727	\$ 34.43
	25	41,109	0.14	0.51	25	0.16	0.54	128	675	2	14	493	\$ 45.72
	30	27,885	0.13	0.63	10	0.07	0.65	82	562	1	4	397	\$ 54.63
	35	21,542	0.13	0.72	2	0.01	0.73	63	496	0	0	345	\$ 61.16

*Mo and Re given value only at Hushamu

Notes to Table 1-1:

- Mineral resources are not mineral reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the mineral resources will be converted into mineral reserves.
- Resources are reported using the 2014 CIM Definition Standards and were estimated using the 2019 CIM Best Practices Guidelines.
- The Mineral Resources have been confined by an open pit with "reasonable prospects of eventual economic extraction" using the 125% pit case and the following assumptions:
 - Metal prices of US\$1,910/oz Au, US\$4.00/lb Cu, US\$21/lb Mo, and US\$1,777/kg Re;
 - Forex of 1.32 \$CDN:\$US
 - Payable metal of 97% payable Au for Northwest Expo and Red Dog and 92% payable Au for Hushamu, Payable of 96.5% for Cu, and 98% payable Mo applicable to Hushamu only.
 - Refining Costs for Au of US\$5.00/oz, refining for Cu of US\$0.075/lb and for Mo of US\$1.30/lb
 - Smelting costs for Cu of US\$75.00/dmt
 - Transportation and insurance costs of CDN\$85/wmt proportionally distributed between Au, and Cu, and Mo;
 - Royalty of 1% NSR for Red Dog
 - Pit slopes are 48 degrees;
 - Mining cost of C\$3.00/t for waste and mineralized material; and
 - Processing, general and administrative costs of C\$11.50/t.
- Metallurgical recoveries for Au are: 91% for Au for Northwest Expo, 85% for Red Dog, 59% for Hushamu in the CMG and 54% outside the CMG
- Metallurgical recoveries for Cu are 73% for Northwest Expo within the CMG and 88% outside CMG, 89.7% at Red Dog and 77.8% at Hushamu within the CMG and 75.4% outside the CMG.
- Metallurgical recovery for Mo is 49% at Hushamu within the CMG and 45% outside the CMG and not considered payable for the other deposits.
- Metallurgical recovery for Re is 39.3% within the CMG and 35.7% outside the CMG and not considered payable for the other deposits.
- The NSR is calculated as follows:
 - Hushamu chlorite-magnetite ("CMG"):
$$\text{NSR}(\$/\text{t}) = (\text{Cu}(\%) * 77.8\% * \$4.72 * 2204.62) + (\text{Au}(\text{gpt}) * 59\% * \$70.35/\text{g}) + (\text{Mo}(\%) * 49\% * \$25.32 * 2204.62) + (\text{Re}(\%) * 39.3\% * \$530.29 * 2204.6)$$

- Hushamu non-CMG (based on silica-clay-pyrite (“SCP”) and applied to all other domains):
 $NSR(C\$/t) = (Cu(\%)*75.4*\$4.70*2204.62) + (Au(gpt)*54*\$70.01/g) + (Mo(\%)*45*\$25.32*2204.62) + (Re(\%)*35.7*\$530.29*2204.6)$
 - Northwest Expo CMG: $NSR(\$/t) = (Cu(\%)*73*\$4.89*2204.62) + (Au(gpt)*91*\$76.85/g)$
 - Northwest Expo non-CMG: $NSR(\$/t) = (Cu(\%)*88*\$4.91*2204.62) + (Au(gpt)*91*\$77.06/g)$
 - Red Dog: $NSR(\$/t) = (Cu(\%)*89.7*\$4.72*2204.62) + (Au(gpt)*85*\$74.08/g)$
9. Copper Equivalents are calculated as follows:
- Northwest Expo CMG: Cu Eq. = Cu + Au*0.888; Non-CMG: Cu Eq. = Cu + Au*0.737
 - Red Dog: Cu Eq. = Cu + Au*0.675
 - Hushamu CMG: Cu Eq. = Cu + Au*0.512 + Mo*0.00034 + Re*0.00567; Non-CMG: Cu Eq. = Cu + Au*0.484 + Mo*0.00032 + Re*0.00534
10. Gold Equivalent for Northwest Expo is calculated as follows: CMG: Au Eq. = Au + 1.126*Cu%; Non-CMG Au Eq. = Au + 1.358*Cu%
11. The specific gravity for each deposit and domain ranges from 2.62-2.86 depending on alteration AND is assumed to be 1.5 in overburden.
12. Numbers may not add due to rounding.

1.3 Terms of Reference

The report is being completed for NorthIsle Copper and Gold Inc., a company incorporated under the laws of British Columbia, in connection with the News Release dated October 10, 2024.

Mineral Resources and Mineral Reserves are estimated using the 2019 edition of the Canadian Institute of Mining, Metallurgy and Exploration (CIM) Estimation of Mineral Resources & Mineral Reserves Best Practice Guidelines (2019 CIM Best Practice Guidelines) and are reported using the 2014 CIM Definition Standards for Mineral Resources and Mineral Reserves (2014 CIM Definition Standards).

1.4 Project Setting

The North Island Project covers a west-northwest-trending ~40 x 8 km area north of the Holberg Inlet, approximately 25 km west of Port Hardy, on northern Vancouver Island, B.C. (Figure 4-1).

1.5 Mineral Tenure

The Project is a 34,194-hectare contiguous block of 214 mixed legacy and cell mineral claims 100% owned by North Island Mining Corp., a wholly owned subsidiary of NorthIsle. Expiration and renewal dates range from December 11, 2030, to October 11, 2033.

1.5.1 Royalties and Encumbrances

The Red Dog deposit contains a 3% net smelter return (“NSR”) royalty, payable to two private individuals. Up to 2% of this NSR may be repurchased by NorthIsle at any time for a cost of C\$1,000,000 per 1%. As a result, a net 1% NSR royalty has been incorporated into the economic parameters of this study. In addition, a portion of the claims underlying the project, historically known as the Expo claims, are subject to a 10% net profit royalty now owned indirectly by Royal Gold, Inc., and a \$1 million cash payment is payable to Sirit Inc., or its successor, within 60 days of a production decision on these claims. In addition, certain other claims, historically known as the Apple Bay Claims, require an \$800,000 payment (in cash or shares) to be made to Electra Gold Ltd. or its successor in the event of a production decision on those claims. The impact of these royalties are not estimated to be material to the resource estimate.

1.6 Surface Rights

NorthIsle has not purchased any surface rights on the North Island Project. The company currently leases space for its exploration office and core storage at an industrial site within the town limits of Port Hardy.

1.7 Accessibility, Climate, Local Resources, Infrastructure and Physiography

Project access from Port Hardy is via paved roads and a network of well-maintained all-season logging roads. The target areas are accessed from Port Hardy by a paved road to Coal Harbour or partially paved road towards Holberg and then well-maintained logging roads to the various target areas. Climate in the Project area is typical of coastal areas of British Columbia with average annual precipitation of 3,911 mm, and a daily average temperature of 8.3°C (Environment Canada 1971-2000). Port Hardy and the surrounding region have considerable fishing and forestry industry, and the town is well equipped with amenities including an airport, barge terminals, equipment and operators, and a local work force.

The topography of the Project area is characterized by north and northwest-trending ridgelines with broad intervening valleys that typically contain small streams or rivers. Elevations range from sea level at Holberg Inlet, to 720 m above sea level.

1.8 History

Mineral exploration in the project area was initiated following the release of an aeromagnetic survey by the BC Department of Mines and the Geological Survey of Canada in 1963.

Mineralization was discovered at Hushamu and Red Dog in the 1960's; subsequent drilling led to an initial resource estimate at Hushamu in 1975. Hushamu has seen significant exploration (at least 42,353.67 m in 162 drillholes) from 1968 to 2022. Red Dog similarly saw significant drilling (~8000 m) periodically from 1968 -1991, with renewed efforts in 2016 contributing to the NI-43-101-compliant initial resource estimate in 2017.

The area north of Northwest Expo was explored with IP and drilling in 1974. Minor drilling and geophysics occurred from 1994-1997 and significant drilling occurred from 2005-2008 (~9000 m in 25 drillholes).

1.9 Drilling and Exploration

Drilling done by NorthIsle on the North Island Project prior to 2021 was primarily at Hushamu and Red Dog to better define the northern and southern limits, to infill drill and to test IP anomalies.

In 2021, following a 2012 IP survey, partially covering Northwest Expo and an area north of Red Dog, two holes were drilled peripheral to the Red Dog deposit and two peripheral to Northwest Expo. At Northwest Expo following the completion of a third hole, NW21-03, intersecting significant mineralization an additional 5 holes were drilled adjacent and peripheral to the discovery hole totaling 2,547 metres. In 2022, an IP and ground magnetic survey was carried out over parts of Northwest Expo not covered in the 2012 IP survey. Additionally in 2022, a total of 10 holes totalling 4,964m were completed within in the Hushamu deposit. In 2023, 18 holes totaling 8,622 metres were drilled at Northwest Expo to provide data to inform a resource estimation. In 2024 an airborne gradient magnetic survey totaling 439 line-km was carried over Northwest Expo, Red Dog and Goodspeed to aid vectoring

towards the porphyry roots of the lithocap hosted mineralization in the area. In 2024, an ongoing drill program of 10 drillholes totaling 2,700 metres has been completed to date at Northwest Expo and an additional 10 holes totalling 4,281m have been completed to date at the West Goodspeed target.

1.10 Sample Preparation Analysis and Security

The QP finds that the Hushamu, Northwest Expo and Red Dog assaying and security procedures between 2005 and 2023 have been to industry standards.

Overall QA/QC performances with regards to contamination, accuracy, and precision have been acceptable. No significant data issues that could reasonably be expected to impact the results of the resource estimate were detected. For historic sampling with no QAQC, the data has been verified by comparison to assaying with certificates and QAQC.

1.11 Metallurgy

Several metallurgical test programs have been conducted under the direction of Northisle on samples from the Hushamu, Red Dog and Northwest Expo deposits since 2012. Only one known metallurgical test program was completed on samples from the Red Dog deposit prior to this time. The test programs were conducted on both composites and variability samples obtained from many drillholes and provide spatial coverage of the deposits that is suitable for this level of study.

Conventional processing techniques have been evaluated which include grinding, froth flotation, and leaching process streams with CN solutions. The metallurgical testing has been quite extensive, culminating in locked cycle flotation tests in most programs. The results suggest that the materials are amenable to processing by these conventional techniques and can produce copper concentrates that would be considered marketable. Copper recoveries to copper concentrates range from 73 to 90%. Overall, deleterious elements were measured in the concentrates were below levels that would attract smelter penalties. Two concentrates, one from NW Expo and the other from Red Dog, contained selenium levels that were slightly above penalty levels, however blending would likely mitigate any penalty risk.

Mineralogical assessments on ground samples were also conducted to support the metallurgical processing understanding. The samples contain low levels of copper sulphides, primarily chalcopyrite and moderate levels of pyrite. The pyrite to copper sulphide ratios ranges from 6 to 28 in the samples tested, with the highest ratios in Hushamu SCP material. These elevated pyrite ratios require selective pulp chemistry and fine regrinding to generate marketable copper concentrates.

The results indicate that between 32-65% of the gold in the feeds is recoverable to a copper flotation concentrate. The addition of cyanide leaching on flotation tails streams can provide an additional 15-32% gold recovery which would report to doré.

Molybdenum recovery to bulk Cu-Mo concentrates ranges from 50 to 55% on Hushamu materials and was measured at 74% on Red Dog material. Molybdenum recoveries to bulk Cu-Mo concentrates were considerably lower on Northwest Expo samples, ranging from 8 to 22%. Production of a molybdenum concentrate has not been demonstrated by Cu-Mo separation testing, a separation circuit recovery of 90% has been estimated where applicable, as this is typical of industry practice.

1.12 Conclusions and Recommendations

The QPs make the following conclusions regarding sampling, analysis, metallurgical testwork and the resource estimate.

1.12.1 Sampling, Preparation, Analysis Conclusions

In the opinion of the QP, sampling, preparation, analysis, and security by previous operators are consistent with industry standard practices. Review and analysis of the assay database and QAQC data shows the assay database is of sufficient quality for resource estimation.

1.12.2 Metallurgical Testwork Conclusions

The recoveries used for Resource estimate are reasonable for this level of study based on the metallurgical testing to date.

1.12.3 Resource Estimate Conclusions

In the opinion of the QP the block model resource estimate and resource classification reported herein are a reasonable representation of the global gold, copper, molybdenum and rhenium found in the North Island Project deposits: Hushamu, Northwest Expo and Red Dog. Mineral resources are not mineral reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the mineral resource will be converted into mineral reserve.

The QPs make the following recommendations regarding sampling, analysis, metallurgical testwork and the resource estimate.

1.12.4 Sampling, Preparation, Analysis Recommendations

The QP recommends the following for future drilling campaigns:

1. Continued usage of a purchased coarse limestone blank to avoid the variability in certain background concentrations, for instance Cu.
2. Select reference materials that are made from comparable porphyry copper materials and are certified for Au, Cu, Mo, and Re.
3. Select approx. 10% of returned pulps for check-assaying at a secondary independent laboratory and choose an analysis method like the primary lab's method. Assure that all grade ranges are respected.

The QP recommends the following for the current database:

1. Import all available data, including the check-assay data and the "a" and "b" samples of 2008.
2. Consider selecting ca. 100 pulps of the 2022 drill campaign for a check-assay program at ALS or Bureau Veritas since SGS was the primary laboratory that year.
3. Continue updating the database by identifying, reviewing, and re-classifying single core, blank, standard, or duplicate mislabels. Use a multi-element approach and a sample weight-to-sample interval ratio as guides.

1.12.5 Metallurgical Recommendations

Additional metallurgical testing is recommended on samples providing a wider spatial coverage of each deposit. It is recommended that Hushamu testing focus on providing a better understanding of pyrite to copper sulphide ratios across the deposit and the effect of this parameter on metallurgical performance.

1.12.6 Resource and Exploration Recommendations

It is recommended to proceed to a Preliminary Economic Assessment based on the three current resource estimates for Hushamu, Northwest Expo and Red Dog. This work has been initiated with an expected cost of CDN\$1.0M and an expected completion in the first quarter of 2025.

It is also recommended to continue ground based geochemical and geophysical studies as well as in-fill and exploration drilling at the three deposits as well as West Goodspeed and other targets within the North Island Project. The recommended exploration budget for the work is summarized in the table below.

Table 1-2 Exploration Budget

Exploration Item	Cost (CDN\$)
Geochemical	\$500,000
Geophysics - IP	\$500,000
Drilling	\$9,000,000
Total	\$10,000,000

2.0 Introduction

Moose Mountain Technical Services (MMTS) was retained by NorthIsle to produce an updated resource estimate on the North Island Project which includes the Northwest Expo, Red Dog and Hushamu deposits. The effective date for the report is September 23, 2024. This resource estimate is an update of the previous resource estimate reported on May 27, 2022, in the Preliminary Economic Assessment, for Hushamu and Red Dog, and includes an update for Northwest Expo from the estimate reported on March 13, 2024.

2.1 Terms of Reference

The report is being completed for NorthIsle Copper and Gold Inc., a company incorporated under the laws of Canada, in connection with the News Release dated October 10, 2024.

All measurement units used in this Report are metric, and currency is expressed in Canadian (CDN) dollars unless stated otherwise. Mineral Resources and Mineral Reserves are estimated using the 2019 edition of the Canadian Institute of Mining, Metallurgy and Exploration (CIM) Estimation of Mineral Resources & Mineral Reserves Best Practice Guidelines (2019 CIM Best Practice Guidelines) and are reported using the 2014 CIM Definition Standards for Mineral Resources and Mineral Reserves (2014 CIM Definition Standards).

2.2 Qualified Persons

The following serve as the qualified person (QP) for this Technical Report as defined in National Instrument 43-101, *Standards of Disclosure for Mineral Projects*, and in compliance with Form 43-101F1:

- Sue Bird, P.Eng., Moose Mountain Technical Services is responsible for Sections 1.1 through 1.10, 1.12.1, 1.12.3, 1.12.4, 1.12.6, 2 through 12, 14 through 24, 25.1, 25.2, 25.4, 26.1, 26.2, 26.4, and 27 of the report.
- Peter Mehrfert, P.Eng., Ausenco is responsible for Sections 1.11, 1.12.2, 1.12.5, 13, 25.3 and 26.3 of the report.

2.3 Site visits and Scope of Personal Inspection

Sue Bird, P.Eng., of MMTS, visited the North Island Project site on April 20, 2024, for one day. During the site visit collar locations at each deposit were validated. The core storage site in Port Hardy was visited. The core from each deposit was examined for mineralization with 4 samples for re-assay obtained. The site geologists accompanied the QP to each deposit site and gave an overview of the deposits' alteration, lithologies and mineralization styles.

Peter Mehrfert, P.Eng., of Ausenco, has not visited the North Island Project site.

2.4 Effective Date

The overall Report effective date is September 23, 2024.

2.5 Sources of Information

Sources of information are listed in the references, Section 27 of this report, with the sources provided by NorthIsle, regarding property ownership and environmental permitting, listed in Section 3.

3.0 Reliance on Other Experts

The QP authors of this Report state that they are qualified persons for those areas as identified in the "Certificate of Qualified Person" for each QP, as included in this Report. The QPs have relied and believe there is a reasonable basis for this reliance, upon the following other expert reports, which provided information regarding mineral rights, surface rights, and environmental status in sections of this Report as noted below.

3.1 Mineral Tenure and Surface Rights

The QP has not reviewed the mineral tenure, nor independently verified the legal status, ownership of the Project area or underlying property agreements. The QP has fully relied upon information supplied by Nicholas Van Dyk, Chief Financial Officer and Corporate Secretary of NorthIsle, for this information through the following documents:

- Letter from NorthIsle dated October 25, 2024, and titled: North Island Project – Ownership – Surface Rights – Royalties – Community Engagement.

This title information is used in Section 1.5, 1.6, 4.0 and 4.1 and 14 of the Report.

3.2 Royalties and Encumbrances

The QPs have not reviewed the royalty agreements nor independently verified the legal status of the royalties and other potential encumbrances. The QP has fully relied upon information supplied by Nicholas Van Dyk, Chief Financial Officer and Corporate Secretary of NorthIsle, for this information through the following documents:

- Letter from NorthIsle dated October 25, 2024, and titled: North Island Project – Ownership – Surface Rights – Royalties – Community Engagement.

This royalty information is used in Section 1.5, 4.2 and 4.3 and 14 of the Report.

4.0 Property Description and Location

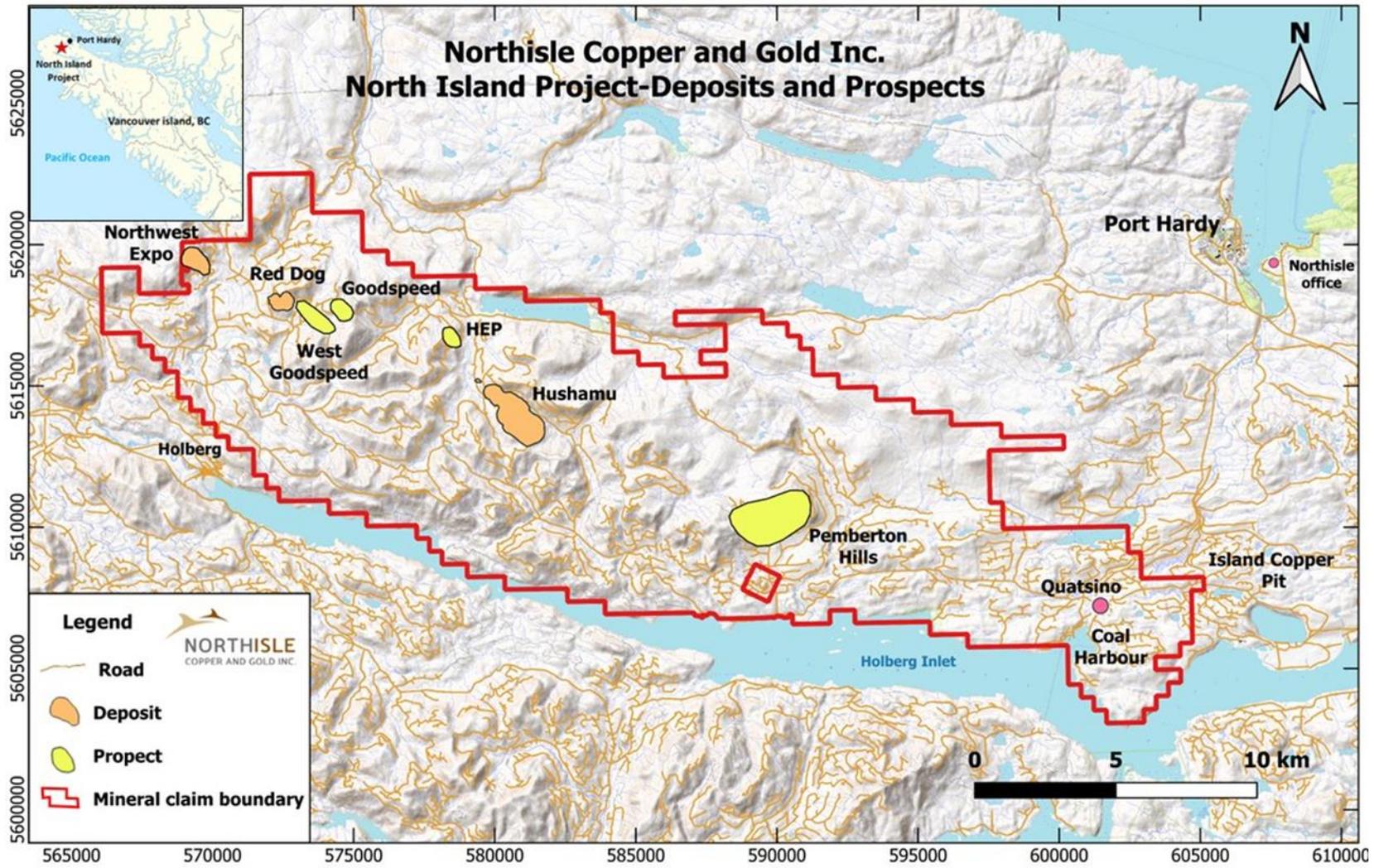
The North Island Project covers a west-northwest-trending approximately 40km x 8 km area north of the Holberg Inlet, approximately 25 km west of Port Hardy, on northern Vancouver Island, B.C. (Figure 4-1) centered at *5614500N and 580500 E (NAD 83)*. The Property comprises a contiguous 34,194-hectare block of mineral titles 100% owned by North Island Mining Corp. (owner ID 259108), a wholly owned subsidiary of NorthIsle Copper and Gold Inc.

The Project area is accessible year-round by way of an extensive network of radio-controlled logging roads. The Hushamu Deposit is accessed from Port Hardy by a paved road to Coal Harbour and then well-maintained logging roads that include the Coal Harbour Main Road, the Wanokana Main Road and the Hushamu Main Road, which extends to the mouth of the Hushamu Valley. Lesser used N and NW sections of the Hushamu Main Road lead to Hushamu Lake and Hepler Creek. The summit of Hushamu Mountain is accessed via Clesklagh Main Road and the decommissioned CL130 Road. The Red Dog Deposit is accessible from Port Hardy by Holberg Road to a point about 45km from Port Hardy where forestry access road NE 62 leads northward to the deposit. Several recently re-opened forestry roads provide access to historical drill sites on the property. Tide water is 15km away by road at Holberg.

The tenure is comprised of a 34,194-hectare contiguous block of 214 claims consisting of 140 contiguous modern claims and (74) smaller pre-1970 claims which largely overlap modern claims in the areas surrounding the Hushamu and Red Dog deposits (Figure 4-2). Most claims are located on NTS map sheet 92L; six (6) of the northwesterly claims are within NTS map sheet 102I. All claims are in good standing and lie within the Nanaimo Mining Division. Appendix A provides a list of claims and relevant information.

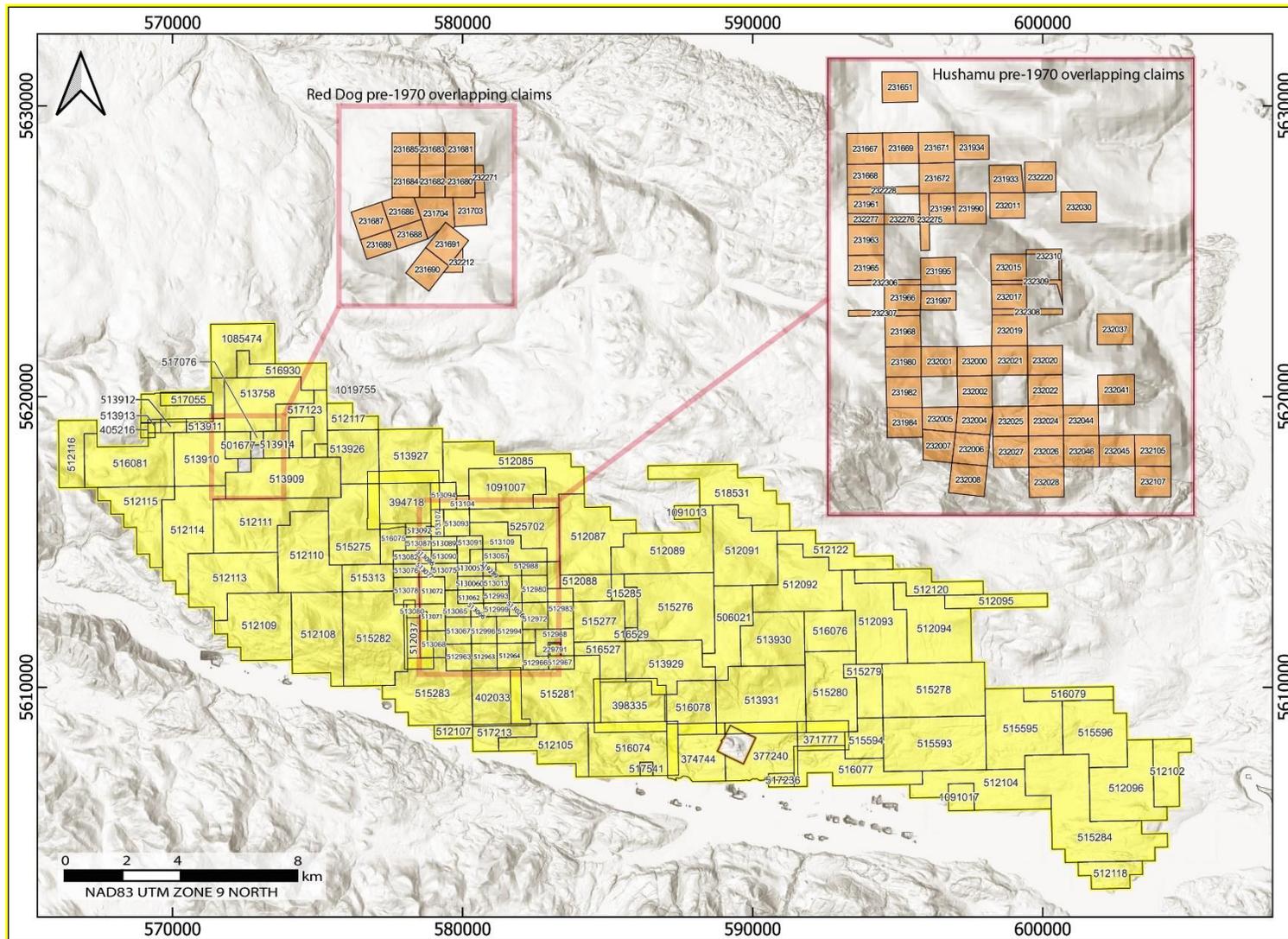
The North Island Property trends for approximately 40 km to the west-northwest of BHP Group Limited's Island Copper Mine, a cluster of five porphyry Cu-Au-Mo systems and one porphyry Cu-Mo deposit that collectively produced 345 Mt at 0.41% Cu, 0.017 % Mo, 0.19 g/t Au, and 1.4 g/t Ag from 1971 – 1995 (Perelló et al., 1995). The North Island Project hosts several porphyry Cu-Au-Mo-Re prospects in a linear cluster over the western 20 km, including both early-stage drilled prospects and the three resource-defined deposits which are the subject of this report. The North Island Project is also host to an additional large target known as Pemberton Hills in the eastern portion of the tenure.

The deposit areas are underlain by predominantly andesitic volcanoclastic rocks with minor basaltic and rhyolitic volcanics of the Lower Jurassic Bonanza Formation which have been intruded by porphyritic diorite/quartz-diorite dykes and stocks of the coeval Jurassic Island Plutonic Suite. Extensive advanced argillic lithocaps are present at several of the target areas, trending along the dominant west-northwest trend.



(Source: Northisle, 2024)

Figure 4-1 North Island Project Location (UTM NAD 83 Coordinate system)



(Source: Northisle, 2024)

Figure 4-2 North Island Project Tenure

4.1 Surface Rights

By virtue of the *Mineral Tenure Act*, RSBC 1996, c 292 of the Province of British Columbia and their property purchase agreement, the Company has the right to access the land associated with the mineral tenure it legally owns for the purposes of conducting mineral exploration. The Project claims are located on Crown land and Forestry tenures and logging roads cover much of the property and are held and managed by two divisions of Western Forest Products Ltd.

There are no other known private encumbrances of the surface rights relating to mineral resources.

4.2 Royalties and other Encumbrances

The Company, through its 100%-owned subsidiary, North Island Mining Corp., owns 100% of the mineral claims forming the Project. A portion of the claims underlining the project (historically known as the Expo claims) are subject to a 10% net profit royalty now owned indirectly by Royal Gold, Inc., and a \$1 million cash payment is payable to Sirit Inc. or its successor within 60 days of a production decision on these claims. In addition, certain other claims (historically known as Apple Bay claims) require an \$800,000 payment (in cash or shares) to be made to Electra Gold Ltd. or its successor in the event of a production decision on those claims.

In addition, the 16 claims that comprise the Red Dog property are subject to a 3% Net Smelter Returns Royalty, of which 2% can be repurchased for a one-time \$2,000,000 payment.

There are no additional royalties, back-in rights, payments or other agreements and encumbrances to which the property is subject.

4.3 Environmental Liabilities and Permits

Exploration activities to date have been undertaken in accordance with the appropriate British Columbia regulations and no existing environmental liabilities are apparent on the property aside from normal course reclamation obligations for exploration activities.

To conduct exploration work on the Project, the Company must obtain permits from the BC Ministry of Energy, Mines and Petroleum Resources, as well as permits to cut timber from the BC Ministry of Forests. The Company has received all necessary permits to conduct mineral exploration to date.

4.4 Community Engagement

The Project is located within the separately claimed traditional territories of the Quatsino First Nation (the “Quatsino”), the Tlatlasikwala First Nation (the “Tlatlasikwala”), and the Kwakiutl First Nation (the “Kwakiutl”). Each respective First Nation is the best source for detailed information about its traditional territory. The Company has initiated discussions and maintains an ongoing dialogue with the Quatsino, the Tlatlasikwala and the Kwakiutl, as well as other First Nations and communities in proximity to the project. The Company has and continues to actively employ members of local First Nations and other communities, and First Nations and local individuals and businesses.

In addition to consulting regularly with each First Nation, the company has entered into exploration agreements and successive renewals with Quatsino and Tlatlasikwala in respect of exploration programs

conducted within their territory. These agreements provide for an open, honest, transparent and fair process through which the Company can conduct certain activities to determine the viability of developing mines, mills, or related facilities for the commercial production of minerals in a manner which recognizes the rights of the respective First Nations.

There are no other significant known factors and risks that may affect access, title, or the right or ability to perform work on the property.

5.0 Accessibility, Climate, Local Resources, Infrastructure and Physiography

The North Island Project covers a west-northwest-trending ~40 x 8 km area north of the Holberg Inlet, ~25 km west of Port Hardy, on northern Vancouver Island, B.C. (Figure 4-1). Project access from Port Hardy is via paved roads and a network of well-maintained all-season logging roads. The target areas are accessed from Port Hardy by a paved road to Coal Harbour or partially paved road towards Holberg and then well-maintained logging roads to the various target areas. Port Hardy and the surrounding region have considerable forestry industry, and the town is well equipped with amenities including an airport, equipment and operators, and a local work force.

The topography of the Project area is characterized by north and northwest-trending ridgelines with broad intervening valleys that typically contain small streams or rivers. Elevations range from sea level at Holberg Inlet, to 720 m above sea level.

A local climate baseline monitoring program was established for the Project in October 2021. A weather station was installed in upper Hushamu Creek Watershed, at an elevation of 460m, situated at an elevation similar to the Red Dog Deposit (470m) (PEA, 2021). The weather station collected continuous measurements of air temperature, relative humidity, barometric pressure, solar radiation, precipitation, and wind speed and direction. Data was collected monthly October 2021 to November 2022. The average air temperature was 6.5 °C and the total precipitation was 3562 mm. The maximum snowpack amount was 94.8 cm in January 2022.

Vegetation comprises a mix of second- and first-growth forest of fir, hemlock, spruce and cedar, and thick low-level brush such as salal, devil's club and various ferns, brambles and marsh plants. Logging has been active across the property for several decades, resulting in highly variable second growth areas in terms of age, density, and ease of access. Though the north island is dotted with lakes, and Holberg Inlet lies to the south, no major bodies of water are within 4 km from any part of the area of interest (Heberlein, 2018 & Baker, 2006).

Given the size of the land holdings and the proximity to Port Hardy there are no unusual issues with the availability and sources of power, water, mining personnel, potential tailings storage areas, potential waste disposal areas, heap leach pad areas, and potential processing plant sites as may be required to develop the project.

6.0 History

The history for Hushamu and Red dog has been taken from the previous PEA report (Tahija et al, 2021).

6.1 Hushamu

In 1962, the British Columbia Department of Mines and the Geological Survey of Canada jointly flew an airborne magnetic survey covering the northern part of Vancouver Island. This survey delineated a belt of north-westerly trending magnetic highs north of Holberg and Rupert Inlets. The results prompted an exploration rush, mostly focused on skarn-type iron deposits (Muntanion and Witherley, 1982).

In 1965, local prospector, Gordon Melbourne, staked a magnetic anomaly at Bay Lake near the eastern end of Rupert Inlet and discovered chalcopyrite in float. Utah Construction and Mining Co. (Utah) optioned the property in January 1966 and conducted geological mapping, soil sampling and ground geophysics, followed by diamond drilling. The discovery hole – the eighty-second hole of the program – was drilled in February 1967 and intersected 88 m grading 0.45% Cu. This discovery resulted in the development of the Island Copper Mine, with production beginning in October 1971 and continuing through December 1995. In 1984, BHP Minerals acquired Utah to form BHP-Utah Mines Ltd (BHP- Utah), which then operated the mine. Over the life of the operation, the mine produced 345 million metric tonnes of ore with average grades of 0.41% copper, 0.017% molybdenum, 0.19 g/t gold and 1.4 g/t silver (Perelló et al., 1995). The Island Copper Mine is located about 29 km east of the Hushamu Deposit.

The Hushamu Deposit was originally discovered in 1968. Between 1966 and 1977, Utah conducted numerous exploration programs and drilled 146 diamond drillholes in the Hushamu and Hep Creek valleys. Highlights of the work on Hushamu include:

- Eight drillholes, 557 m in 1968. Hole EC-19 returned between 0.10% and 0.42% Cu throughout its length. Due to difficult ground conditions and small core diameter, four holes were lost.
- Nine drillholes, 873 m in 1969
- Six drillholes, 1,077 m, in 1971
- Eight drillholes, 1,112 m in 1972
- Nineteen drillholes at Hushamu; two drillholes at South Hushamu, for a total of 3,106 m in 1973.
- Nineteen drillholes, 3,885 m in 1974
- Seven drillholes, 885 m in 1976/77 at Hushamu and South-east Hushamu (also known as South-East McIntosh Mountain)

In 1980, Utah examined the epithermal gold potential of Hushamu Mountain and Pemberton Hills' (7 km ESE of Hushamu) alteration systems. Between 1980 and 1985, Utah and BHP conducted detailed soil surveys, extensive rock sampling, ground geophysical surveys and drilled an additional 12 drillholes, 10 of which were at Hushamu and South- east Hushamu for a total of 1,454 m.

In 1987, BHP-Utah optioned the Expo Property, including the Hushamu area, to Moraga Resources Ltd. (Moraga). In 1991, the shares of Moraga were purchased by Jordex Resources Inc. From 1987 to 1994 numerous phases of exploration were conducted and the option agreement was vested.

During this period Moraga/Jordex focused their drilling efforts on the Hushamu Deposit and nearby McIntosh Mountain area completing 45 holes for 13,668 m (Giroux and Pawliuk, 2003). From 1991 to 1993, Jordex conducted a number of advanced studies on the deposit including initiating a metallurgical study

(Melis and Cron, 1992), a study of ore transport alternatives (Fernie, 1991), a preliminary mining study (Graham, 1993) and a resource estimate (Giroux, 1993). The resource was updated in 2003 (Giroux and Pawliuk, 2003).

Just prior to closure of the Island Copper Mine, in 1994 and 1995, Jordex sought partners to provide capital to bring the Hushamu Deposit into production and utilize the Island Copper mill (Jordex Correspondence, 1994-1996).

Ultimately, no partner was found, and the mill was decommissioned as scheduled. In the following few years, Jordex continued to examine the potential of the Expo Property (Fingler, 1996; Roscoe and Cargill, 1996) and flew a 156-km helicopter-borne geophysical survey (Woolham, 1997).

Lumina Copper Corp. purchased Jordex in 2003 to acquire the core Hushamu claim holdings. In 2005, the company was re-organized to Lumina Resources Corp. (Lumina). Lumina carried out property-wide exploration in 2005 consisting of historic data compilation, 2,687 line-km of helicopter-borne geophysical survey over the entire property, core re-logging, diamond drilling at Hushamu and NW Expo (18 holes, 3,155.2 m), geological mapping, prospecting and soil sampling (Baker, 2005a).

In 2007, Western Copper Corporation (Western Copper) acquired Lumina and its interests in the Hushamu Property. From February through April of that year, Western Copper drilled 15 holes totalling 4,360.3 m at the NW Expo and Cougar areas.

In 2008, IMA Exploration Inc. (IMA) optioned the property from Western Copper and completed a drilling program consisting of 2 holes for 513 m at Hushamu and 11 holes for 4,610 m at NW Expo. The drilling at Hushamu was designed to confirm the grade continuity of the core portion of the mineralized zone and to specifically test for rhenium and molybdenum, which had never been systematically evaluated. The 2 holes at Hushamu returned:

- HI08-03 – 179.3 m @ 0.471 g/t Au, 0.423% Cu, 0.011% Mo, 0.436 g/t Re
- HI08-08 – 164.0 m @ 0.505 g/t Au, 0.303% Cu, 0.007% Mo and 0.419 g/t Re

IMA Gold relinquished the option in late 2010. In the fall of 2011, Western Copper, through a plan of arrangement, created NorthIsle in order to advance the property.

6.2 Red Dog

The Red Dog Deposit is a geochemical find, having been first detected by a regional program in 1962. Follow-up on a 1962 anomaly during the 1966 field season led to the discovery of mineralization in the bed of a creek and the subsequent staking of the Red Dog claims by prospectors Heinz Veerman and William Botel. The property was initially explored by the owners under the name Westcoast Mining and Exploration (“Westcoast”). Three holes were drilled with a winkie drill in 1967, but core recovery was very poor.

From 1968 to 1970, Westcoast conducted surface exploration and a two-phased diamond drill program. The property was geologically mapped on a scale of 1 inch to 400 feet, soil sampled and covered by magnetometer and very low frequency electromagnetic (“VLF-EM”) geophysical surveys. Between 1968 and 1970, 24 diamond drillholes totalling 2,175 m were drilled.

From 1972 to 1977 the property was optioned by City Services Ltd. (“City”) who remapped the property, relogged the previous drillholes and drilled three new diamond drillholes totalling 903 m. In 1973, City was joined by Westminex Development (“Westminex”). A program of rock geochemistry and 7.7 km of road-based induced polarization (“IP”) surveying was done. At the completion of this work, three deep core holes as well as a grid-based IP survey were recommended, but not done.

In 1974, Westminex drilled the three core holes recommended in 1973, totalling 613 m, as well as two winkie holes.

No further work was done on Red Dog until 1982 when it was optioned by Utah. Utah conducted a program of grid-based dipole-dipole IP over Red Dog Hill which revealed three main anomalous zones. As well, Utah completed 1,723 m of diamond drilling in 13 holes over two phases which included the deepening of an earlier hole.

In 1983, Utah conducted their final work program at Red Dog which consisted of five diamond drillholes totalling 780 m to test IP anomalies on the south slope of Red Dog Hill. The IP anomalies were found to be caused by a zone of advanced argillic alteration associated with moderate disseminated pyrite with occasional primary bornite. No mineralization of possible economic importance was found, and the intensity of alteration and pyrite were seen to adequately explain the IP anomaly.

In 1988, Crew Capital Corp. held an option on the property and drilled four core holes on Red Dog Hill, totalling 1,041.8 m, to test the depth and eastern extent of the mineralization previously outlined on the top of Red Dog Hill.

In 1990, Moraga Resources Ltd. (“Moraga”) held an option on the property and drilled 1,850.6 m in 10 holes and deepened an earlier hole. The main objective of Moraga’s 1989 program was to delineate the areal extent of the copper- gold bearing quartz-magnetite breccia on Red Dog Hill and to sample the peripheral mineral zone on the East slope of Red Dog Hill.

A final drilling program was undertaken by Moraga in 1991. A total of 1,240.88 m of core was drilled in eight holes with the objective of the program being to provide information on the lateral continuity of the copper-gold mineralization in the Red Dog Zone, and to some degree the location of the mineralization/waste contact. In addition, one hole was drilled in the peripheral Slide Creek Zone to test its depth and lateral extent. Moraga completed a scoping study on mineralization and concluded the deposit might be feasible as a small open pit mine but decided to return the property to its owner.

6.3 Northwest Expo

The area north of **Northwest Expo** was explored with IP and drilling in 1974; 822 m was drilled in the deposit area in 1987 yielding 23.5 m of 0.5 g/t Au. Minor drilling and geophysics occurred from 1994-1997 and significant drilling occurred from 2005-2008 (~9,000 m in 25 drillholes).

6.4 Goodspeed

The Goodspeed area has been explored since at least 1974. Following a ground IP and magnetic survey in 2022, 3 holes were drilled totaling 948m. An additional two holes were completed, in 2023, totaling 678m testing a ground magnetic anomaly, 1.5 km from Red Dog and 1.5 km from Goodspeed, now called the West

Goodspeed prospect. An ongoing drilling program, in 2024, totaling 4,281 m in 10 drillholes has been completed to date.

6.5 Pemberton Hills

The Pemberton Hills lithocap has seen sporadic surface exploration since 1968, culminating in 31 shallow drillholes (~3600 m) from 1990-1992. Renewed interest under an option agreement with Freeport McMoRan in 2018 led to alteration mapping, >30 line-km of IP, ~6500 m of drilling and ground magnetic surveys from 2018-2022.

There is no previous known production in the areas of the resource estimate for the North Island Project.

Table 6-1 Exploration History on North Island Project Property and Region

Year	Regional/Property-wide	Island Copper	Hushamu	McIntosh / SE Hushamu	Pemberton Hills	Northwest Expo	Red Dog	Goodspeed
1962	BC Dept Mines and GSC fly northern Vancouver Island aeromagnetic survey.							
1963	Survey release sparks regional exploration for iron-ore skarn deposits using stream sediment sampling.	Prospector stakes magnetic anomaly.						
1964								
1965		Prospector discovers massive chalcopyrite						
1966		Utah options claims, carries out soil geochemistry, magnetic, IP, and drilling	Utah stakes, conducts soil, magnetic & IP surveys, mapping, at Hushamu & along Hepler Creek discovers Cu-Mo				Chalcopyrite mineralization discovered in creek bed	
1967	Utah staked most of present-day property in "Expo"; Westcoast Mining Co. stakes Red Dog.	Discovery Hole 82 intersects 88m of 0.45% Cu						
1968	Mapping (1:2400), soil sampling 27 x 8 km grid (n~17,000).		Drilling confirms mineralization - 557 m in 8 DDH.		Utah carries soil sampling, mapping			
1969		128 DDH's 35,595m defines Island Copper Deposit.	873 m in 9 DDH.					
1971		Production commences.	1077 m in 6 DDH.				30 DDH by Westcoast Mining Company	
1972			1112 m in 8 DDH.					
1973			3,106 m in 21 DDH.					
1974	2 DDH - EC-221 & EC-222		3,885 m in 19 DDH.			Pechiney IP resistivity on Ben-Hur to follow up Cu soil anomalies		2 DDH (EC-119 & EC-120)

Year	Regional/Property-wide	Island Copper	Hushamu	McIntosh / SE Hushamu	Pemberton Hills	Northwest Expo	Red Dog	Goodspeed	
						vectors south. 1129.3 m in 8 DDH.			
1975			Over >10,000 m drilling, MRE 52.9 Mt of -.32% Cu, 0.008% Mo and 0.41 g/t Au, stripping ratio of 2.21:1 (BHP, 1975).						
1976			885 m in 7 DDH at Hushamu & SE Hushamu						
1977									
1980			Utah examines epithermal Au potential with soil surveys, extensive rock sampling, ground geophysical surveys, 12 DDH.						
1981									
1982									
1983									2503.5 m in 18 DDH, IP proves useful for targeting.
1984	BHP acquires Utah Mines Ltd.								
1985									
1987	BHP-Utah options Expo Property to Moraga Resources.					Jordex/BHP drill 10 holes 822 m, NEW-02 23.5 m of 0.5 g/t Au.			
1988			762 m in 5 DDH.				1041.8 m in 4 DDH - dykes and faults make complex ore body		
1989			3822.7 m in 11 DDH extends deposit 200 m south.				764.4 m in 7 DDH, mapping, soil re-assaying.		
1990					1867 m in 17 RC holes		3091.5 m in 19 DDH.		
1991	Jordex acquires property through share purchases and option agreements.		Ore transport alternatives study.						
1992			Metallurgical study.		1786 m in 14 DDH. IP, Resistivity, Mag				

Year	Regional/Property-wide	Island Copper	Hushamu	McIntosh / SE Hushamu	Pemberton Hills	Northwest Expo	Red Dog	Goodspeed
1993			Updated MRE (Giroux) and preliminary mining study (Graham, 1993).					
1994			An updated reserve was prepared for Hushamu. Jordex sought to identify partners to bring it into production	Low-grade Cu-Au below siliceous pyrophyllite breccias.		822m in 7 DDH.		
1995		Island Copper ceases operations. Reclamation commences.				156 line-km helicopter-borne geophysical survey.		
1997						Airborne EM, radiometric, magnetic.	Airborne EM, radiometric, magnetic.	
2003	Lumina Copper Corp. acquires core of Property through Moraga purchase.		An updated mineral resource estimate was prepared for Hushamu by Giroux & Pawliuk					
2005	Data compilation, aeromagnetic survey, re-logging, mapping, prospecting, soil sampling.		1687.4 m in 6 DDH. Re-logging 12 holes along two N-S sections, 292 PIMA analysis, geological mapping and prospecting. Conclude that Hushamu is fault-bound; potential for further discovery limited.			Porphyry-style Au-Cu-Mo mineralization is intersected below lithocap.		
2007						4360 m in 15 DDH at Northwest Expo and Cougar.		
2008	IMA Resources options Property from Western Copper / Moraga		513 m in 2 DDH.			4610 m in 11 DDH.		



References: Baker, 2006; Baldys et al., 2009; Bowen, 1974; 1976; 1977; Burgert & Houle, 2011; Dasler, 1994; Fernie, 1991; Dasler, 1994; Dasler et al., 1995; Fingler, 1996; Game and Burt, 2017; Graham, 1993; Harrington, 1989; Jedemann, 2021; Jones, 1990; Lehtinen & Awmack, 2007; McClintock, 2015; 2017; 2019; Melis & Cron, 1992; Muntanion & Witherley, 1982; Pawliuk, 1991;1992; 1994; Richards, 1990; Roscoe & Cargill, 1996; Sutton & Dasler, 1990; Tahija et al., 2021; Tolbert et al., 2023; Woolham, 1997

7.0 Geological Setting and Mineralization

7.1 Regional Geology

This section is adapted from Tahija et al. (2022), who summarize work from Nixon et al., 2006. Figure 7-1 is the stratigraphy of the North Island Project, with Figure 7-2 showing the bedrock geology of northern Vancouver Island and the location of the North Island Project.

Northern Vancouver Island is underlain by a series of Upper Paleozoic to Lower Mesozoic rocks of the Wrangellia Terrane: a tectonostratigraphic terrane that occurs discontinuously northwards as far as Alaska. The Insular Superterrane was formed by the amalgamation of Wrangellia and the Alexander Terrane by Late Carboniferous and was subsequently accreted to North America between the mid-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-accretionary 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 can host volcanogenic massive sulphide (VMS) deposits such as those at Myra Falls. The Karmutsen Formation conformably overlies the Sicker Group and comprises up to 6 km of basaltic and minor sedimentary rocks that underlie about 50% of Vancouver Island. The Karmutsen Formation is thought to represent an oceanic plateau formed above a mantle plume (Richards et al., 1991; Greene et al., 2006). In the project area, **Karmutsen Formation** basalt is conformably overlain by **Quatsino Formation** limestone, consistent with a period of quiescence following impingement of a mantle plume. Quatsino Formation hosts both magnetite (iron) and calc-silicate (Au-Cu) skarn mineralization in the region, most notably at the Merry Widow deposit near Port Alice. The youngest pre-accretionary shallow water **Parsons Bay Formation** was deposited in the Upper Triassic.

During accretion of Wrangellia, the **Bonanza Arc** formed along the length of Vancouver Island (DeBari et al., 1999). Subsequent tilting preserved products of the Bonanza Arc from various crustal depths, including the **Westcoast Crystalline Complex**, **Island Plutonic Suite** and the **Bonanza Group** volcanic rocks. Similar ages (190 – 169 Ma) and geochemical signatures imply that these suites are products of a single arc (DeBari et al., 1999). Porphyry copper mineralization on Vancouver Island is attributed to intrusions of the Island Plutonic Suite.

Compression of the Bonanza Arc during accretion of Wrangellia resulted in thrust faulting and associated folding. Subsequent extension resulted in the northwest-trending horst- and graben geometry and tilting prevalent in the region. The graben forming the Nahwitti River fault and the Holberg Inlet fault have preserved the complete structure of the Hushamu and Northwest Expo porphyry related hydrothermal system from lithocap to stockwork porphyry root. Elsewhere in Mesozoic age rocks in B.C., the lithocaps have been eroded. Usually, the lithocap portion of porphyry systems are only seen in young Tertiary age systems in South America, the Philippines, and Indonesia.

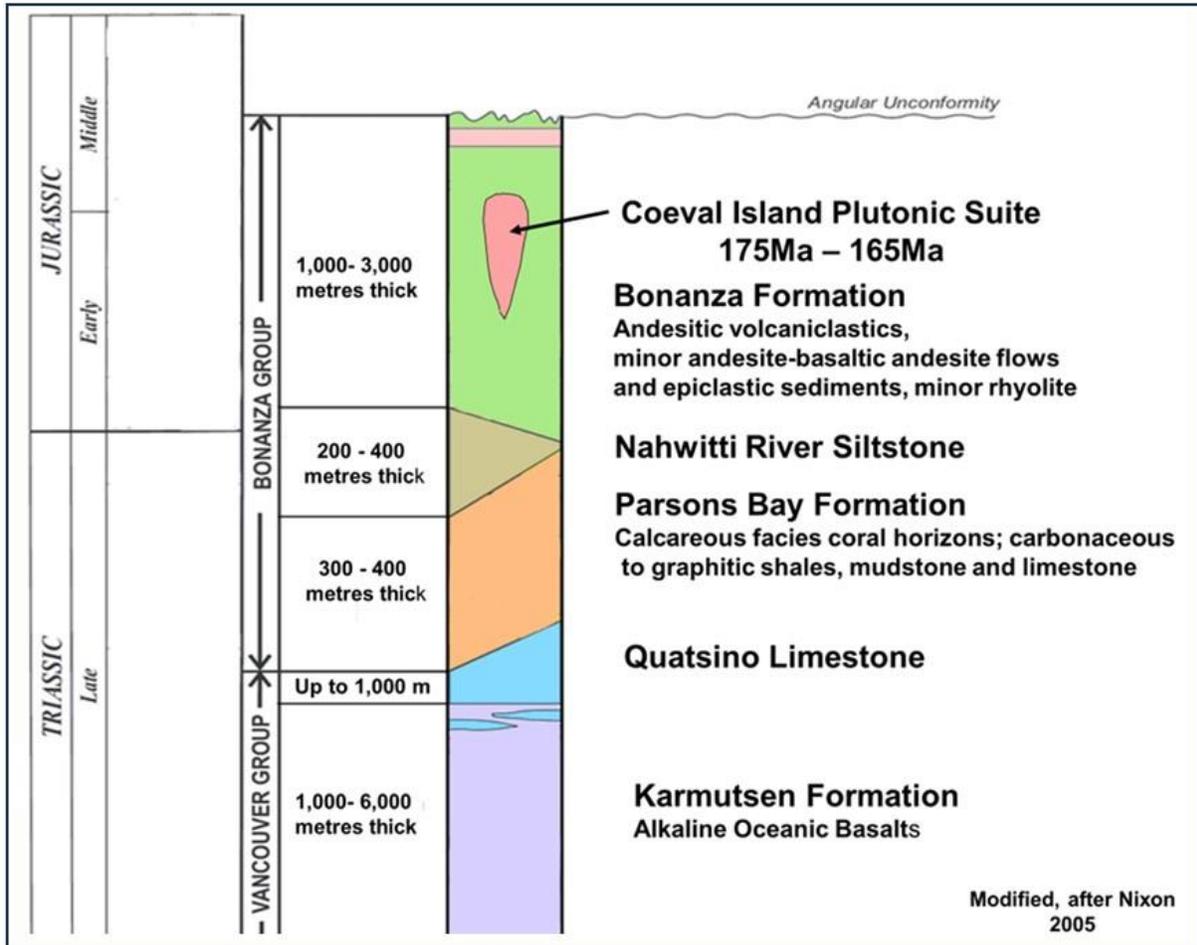
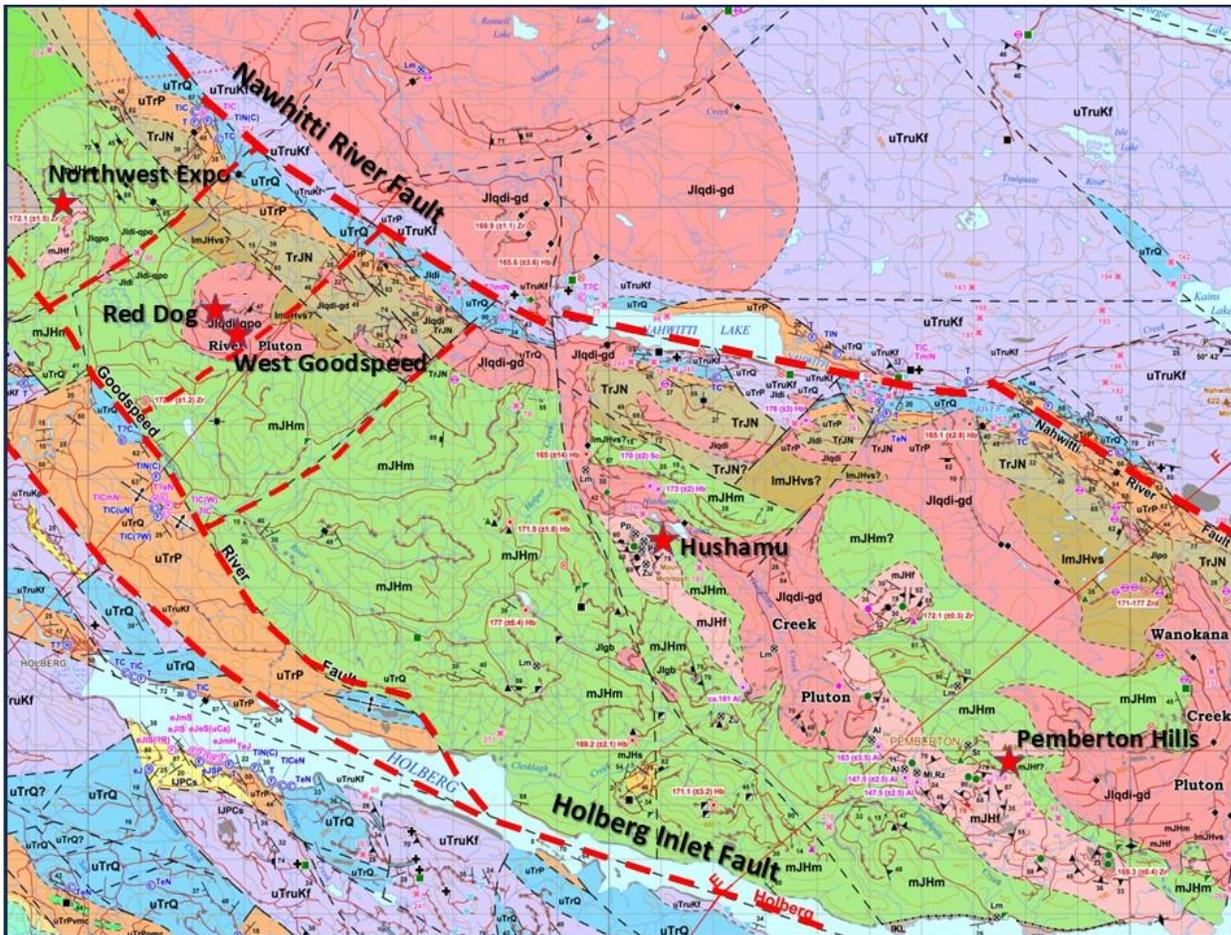


Figure 7-1 North Island Project Stratigraphy



(Source: Nixon, 2005)

Figure 7-2 Regional Geology of Northern Vancouver Island

7.2 Property Geology

The North Island Project is underlain predominantly by andesitic volcanics, volcanoclastics and epiclastic sediments of the early to mid-Jurassic Bonanza Group which are intruded by diorite, quartz monzonite, and quartz-feldspar porphyries of the coeval Island Plutonic Suite. Several facies of breccia are present, including hydrothermal and tectonic as well as possible magmatic breccias in the deposit areas.

Mineralization and associated alteration occur predominantly within andesitic volcanoclastics of the Bonanza Group. Extensive lithocaps are present at several deposits and prospects on the Property. Within the lithocaps of known deposits, texturally destructive advanced argillic alteration has destroyed the protolith resulting in amoeboidal-like gusano texture of silica and clay minerals (pyrophyllite-diaspore) termed “Silica Immiscibility (SIM)” texture by NorthIsle geologists. Mottled to brecciated tabular altered zones of chlorite-magnetite-silica (CMG) with Cu-Au-Mo-Re mineralization at both Northwest Expo and Hushamu occurring as semi-tabular lenses within the lithocap below the SCP altered zones.

The deposits and prospects on the Property are aligned within a northwest-trending graben bound to the north by the northwest- trending Nahwitti River fault along the northeast boundary of the Property

and the subparallel Holberg Inlet fault. The formation of this graben has preserved the lithocaps to the roots of the porphyry systems on the property. Subsequent dextral kinematics has resulted in both northwest- and northeast-trending sinistral and dextral strike-slip and normal and faults.

The preservation of the entire vertical profile of the porphyry systems in the region (Island Copper, Hushamu, Northwest Expo) and the resultant extensive preserved lithocaps are uncommon features in B.C. but are common in relatively young porphyry systems in South America and Southeast Asia.

7.3 Hushamu Deposit Geology

This section is adapted from Tahija et al., (2022) and Casselman, (2012) and modified by Tolbert and Hamilton (2024).

7.3.1 Lithology - Hushamu

The Hushamu area is underlain by andesitic volcanoclastics of the early to mid-Jurassic Bonanza Group volcanics intruded by diorite and quartz-feldspar porphyry dykes of the coeval mid-Jurassic Island Plutonic Suite and cut by hydrothermal and late tectonic breccias. The dominantly andesitic volcanoclastics are the host rock to the porphyry related alteration. The volcanoclastic units are intensely altered and as ore types can be divided by their alteration assemblage into two main units detailed below in the alteration section.

The Bonanza Group volcanoclastics are intruded by the Hushamu Creek Pluton (QFP in Figure 7-3), a large, northwest-trending, fine to medium-grained, diorite to quartz diorite, sometimes displaying weak feldspar porphyritic textures, and is largely unmineralized. East of Hushamu Mountain, the intrusion is reduced to a series of narrow dykes that run parallel to Hushamu valley.

Dykes and irregular bodies of subvolcanic quartz-feldspar porphyry occur at the southern edge of the diorite stocks, and can be traced northwest along the Hushamu valley, where they are truncated by the West Fault. They are characterized by coarse subhedral quartz and feldspar phenocrysts set in a very-fine-grained matrix, often with diorite and/or andesite inclusions. These are weakly altered, pyritized, and locally mineralized. This unit was historically believed to be co-magmatic with the Bonanza Group volcanics and thus responsible for Cu-Au-Mo mineralization (Nixon, 2006). However, Halle and Halle (2012), during re-logging of Hushamu core, and Tolbert and Hamilton, (2024), during field mapping have not found evidence to support this assertion with respect to the diorite to the north of the deposit being directly responsible for the mineralization at Hushamu.

The Bonanza volcanoclastics in the deposit area have undergone intense hydrothermal alteration. During the evolution of this dynamic hydrothermal system multiple generations of brecciation and overprinting alteration can be observed. The resultant hydrothermal breccias have been cross-cut by later, vertically oriented, decimetre-scale phreato-magmatic intrusive breccia bodies. The resultant silica-clay alteration assemblages from both events are observed in drill core to overprint earlier chlorite-magnetite alteration. The juxtaposition of this advanced argillic alteration phase onto an earlier chloritic phase can be explained by a “telescoping model” suggested by Perello (1992), occurring during uplift and erosion of active hydrothermal systems. The most extreme and texturally destructive variety of this alteration/lithology appears to dip shallowly to the northeast.

The late breccia units tend to have steep contacts with the hydrothermal host, typically more than 60 to 70 degrees. On surface, these relatively narrow bodies appear to strike 45 to 70 degrees. The breccia

matrix is mainly zunyite and/or massive pyrite, locally grading from one to the other, or displaying sharp, re-brecciated contacts. These units are estimated to account for 5% of Hushamu Deposit geology.

7.3.2 Alteration - Hushamu

There are three main alteration assemblages in the Hushamu Deposit (Figure 7-3): advanced argillic assemblage of silica-clay-pyrite (SCP), chlorite-magnetite (CMG), and propylitic (PRO).

SCP alteration (Figure 7-3) occurring on Hushamu Mountain consists of silica and clay minerals ranging from moderately low pH, low temperature, kaolinite, dickite +/- alunite to higher temperature lower pH pyrophyllite-diaspore, zunyite, topaz, zunyite. Pyrite typically comprises 10–20% of the rock. SCP alteration is texturally destructive. The zunyite and topaz bearing SCP is typically pyrite poor (generally less than 1%) and can have appreciable amounts of zunyite. Typically, zunyite and topaz occur in the hydrothermal upflow zone feeding the lithocaps at Hushamu, Northwest Expo and other lithocaps worldwide. In 2021, NorthIsle geologists recognized significant textures in the SCP to be gusano texture, or as defined by NorthIsle geologists, SIM (silica brine immiscibility) texture, consisting of ovoidal amoeboidal globules of light creamy coloured pyrophyllite-diaspore in a dark silica matrix. This occurs typically in lithocaps elsewhere in the world above the hydrothermal upflow zone(s) feeding porphyry lithocaps (Yanacocha, Peru, Onto, Indonesia, Tujuh Bukit, Indonesia).

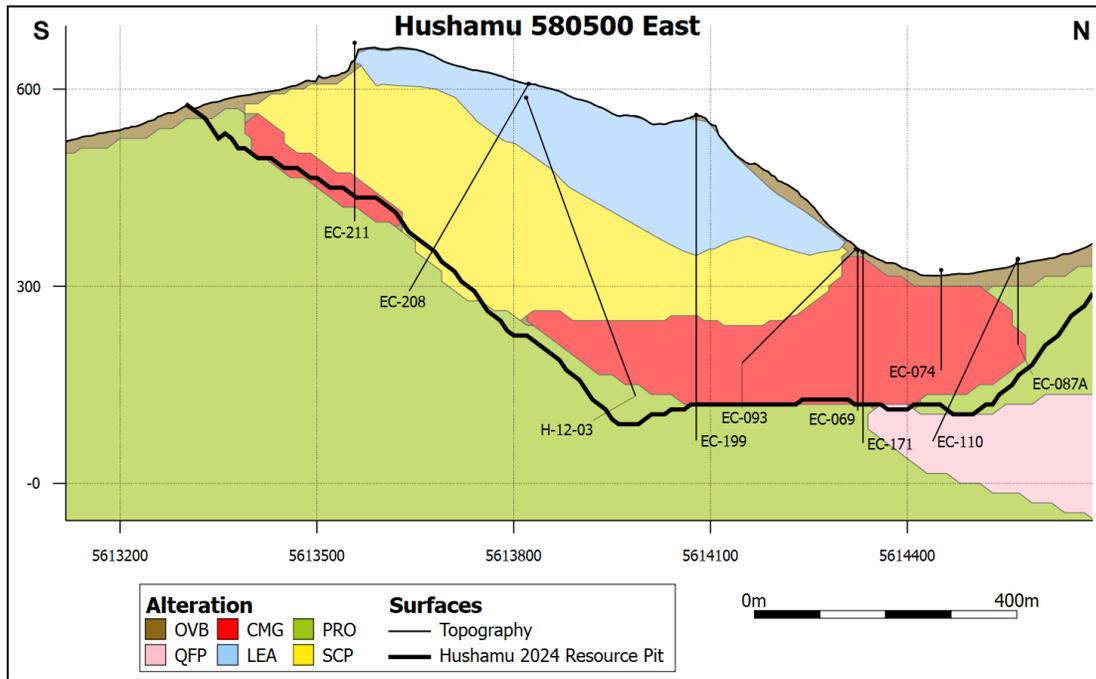
LEA alteration occurs at the upper part of the Hushamu lithocap SCP alteration (LEA in Figure 7-3). This is a leached zone of SCP, ranging from 50 metres to about 200 metres thick, in which there is no significant copper or gold. Observed at the base of this in several places within the SCP are narrow zones of supergene enrichment evidenced by covellite and chalcocite.

CMG alteration (chlorite-magnetite-silica) underlies the SCP alteration. The dark green CMG displays a mottled to brecciated texture. The chlorite is generally recognized as a retrograde alteration product of early hydrothermal biotite. In places cross-cutting quartz stockwork veins that may include magnetite, chalcopyrite, lesser bornite, molybdenite, and minor pyrite occur within CMG.

PRO alteration (chlorite+/- epidote+/-zeolite+/-carbonates). This lighter green alteration occurs below and outwards from the CMG alteration, which is likely equivalent to the CZC alteration at Northwest Expo and Goodspeed. The propylitic alteration is characterized by chlorite and locally abundant epidote, cross-cutting magnesium carbonate veins, and zeolite veins, mainly laumontite and chabazite. Observed in several drillholes, in the 2021 and 2022 drill program, the CMG-PRO contact is a shear zone.

Phyllic alteration is observed in the northwest of the Hushamu Deposit and is characterized by abundant sericite and disseminated pyrite. This alteration zone is believed to be structurally controlled. Figure 7-4 is a plan map of the mapped surface structure and alteration at Hushamu.

Recent geologic mapping, on the south side of Hushamu Mountain, has recognized overprinted stockwork veining, in a feldspar porphyry over 600 metres length trending in a NW-SE direction, and in breccias in the same area with stockwork vein xenoliths, associated with zunyite, providing evidence for the possibility of a highly telescoped system, which opens up the potential to discover the mineralized porphyry roots of the lithocap hosted mineralization at Hushamu to the south in the down dropped Hepler Creek fault zone.



(Source: NorthIsle, 2024)

Figure 7-3 Geology and Alteration of the Hushamu Deposit Area

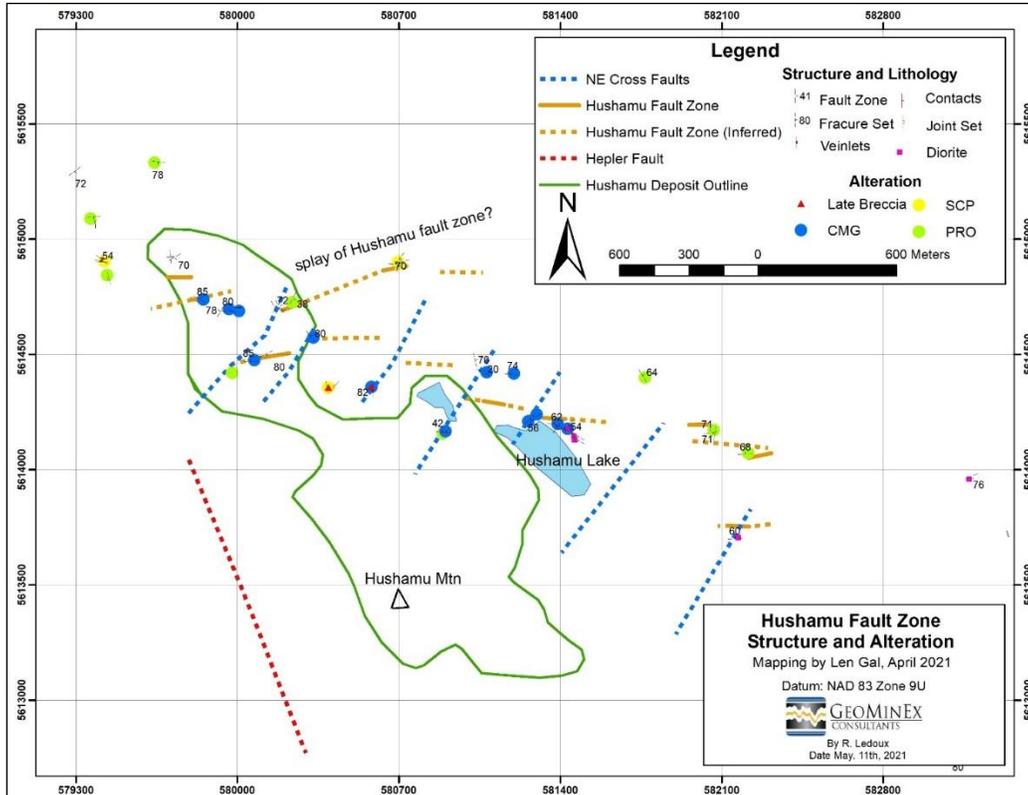


Figure 7-4 Plan Map of Alteration and Structures at Hushamu

7.3.3 Mineralization

The Hushamu mineralized zone extends 2,500 metres in a NW-SE direction, dips 25 degrees north, extends 860 metres down dip and has an average thickness of 380 metres. Three mineralized zones have been recognized in the Hushamu Deposit related to and defined by the alteration zones (Figure 7-3).

LEA, the Leached Zone is typical of ground water acid leaching occurring at the top of porphyry systems. In BC, leached caps of the majority of porphyry systems have been removed by erosion and/or glacial processes. This leached rock is generally bleached, the majority of sulphide minerals have been removed, while abundant clay minerals formed by the leaching process and silica-rich minerals remain. This zone generally occurs at the top of the deposit, however there are minor discontinuous, leached zones throughout Hushamu Mountain. Copper has been partially to completely removed but minor molybdenite and gold remain.

The rarely formed supergene zone at the base of LEA within the SCP is characterized by very weak enrichment of copper in the form of chalcocite +/- covellite. The zone generally occurs from 60 metre depth to 90 metres below surface. In one hole, EC-187, supergene mineralization was noted at 200 metres depth in fractured rocks proximal to the West Fault.

In the Hypogene Zone, of **SCP** and **CMG** copper mineralization occurs as blebby and vein chalcopyrite and lesser bornite. The copper grade is highest in CMG-altered volcanics with lesser copper in SCP alteration. Molybdenite and related rhenium concentrations are highest in the SCP altered rocks, however molybdenite is also present in quartz veins in the CMG-altered rocks. Sulphide mineralization decreases where silica flooding is extreme, in the late vertical breccias and surrounding rocks, and in propylitic altered units.

Sulphide mineralization in historical core that has been exposed to the atmosphere has been intensely oxidized and leached by weathering processes. Abundant chalcantite, brochantite, and other sulfates are observed as precipitates on the core.

Mineralization related to alteration extends over 2.7 km in the NW direction and over 1.3 km in the NE direction. Recently identified quartz vein stockwork feldspar porphyry at the southeast side of Hushamu Mountain opens up the possibility of the mineralized intrusive roots of the system being downfaulted by the Hepler Creek fault zone.

7.3.4 Structure - Hushamu

Nixon et al (1994) describe three dominant deformational events in the Hushamu area: 1) east to northeast directed compression resulting in northwest-trending thrust faulting. These structures are noted to be the primary control on the emplacement of mineralizing porphyry bodies of the Island Plutonic Suite. In the area around the Hushamu Deposit, the Nahwitti Fault and possibly the Hushamu Fault are examples of this.

The second event is a north-directed compressional event, resulting in west-northwest-trending strike-slip faulting such as the Hepler Fault west of Hushamu Mountain. This event may have offset some of the porphyry systems, and in the Hushamu area a strike-slip offset on the order of thousands of metres is likely.

The third event was a north to north-northwest extensional event resulting in northeast to east-northeast-striking normal faults which offset porphyry systems. The Mead Creek-West Fault and the Hushamu Creek Pluton Fault are examples of these structures.

7.4 Northwest Expo Deposit Geology

The NW Expo deposit comprises a semi-tabular body of Bonanza Formation volcanoclastics altered to chlorite-magnetite (CMG) with overlying and underlying SCP alteration dipping 60° to the north-northeast. This tabular body extends over 730 metres in the NW-SE direction, over 400 metres down-dip and averages 120 metres thick. Mineralization occurs within the advanced argillic lithocap similar to Hushamu and, typically lithocaps are often linked to a deeper porphyry system, like the Lepanto deposit in Luzon, Philippines (e.g. Arribas et al., 1995; Hedenquist et al., 1998). Figure 7-5 shows a cross section through the deposit and the alteration/mineralized zones. Figure 7-6 is a plan map of surface mapping of the Northwest Expo alteration.

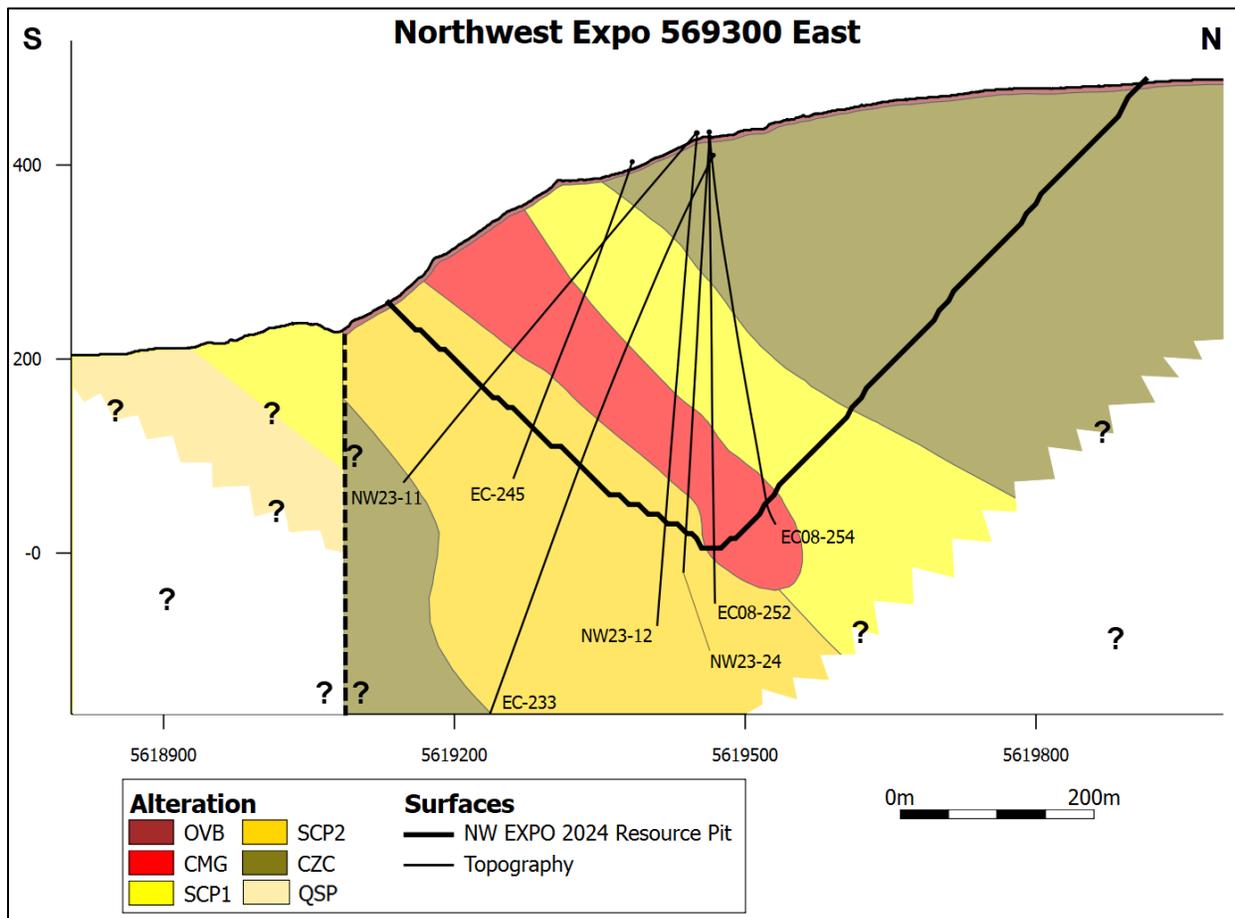
7.4.1 Lithology – Northwest Expo

The Northwest Expo deposit is underlain by highly altered Jurassic age Bonanza Formation (Figure 7-1 and Figure 7-2) consisting of coarse to fine andesitic volcanoclastics, minor tuffs and epiclastic sediments. This sequence is intruded primarily by coeval feldspar porphyry, hornblende-feldspar porphyry, diorite dykes and narrow late-stage basaltic dykes following preexisting structures. These are all observed in core and in a few locations in surface outcrops.

7.4.2 Alteration – Northwest Expo

This area has undergone intense hydrothermal alteration, resulting from an underlying causative intrusion evidenced by hydrothermal breccias with altered, mineralized intrusive xenoliths and abundant porphyry related veins occurring commonly as parallel banded vein arrays, occasionally forming complex stockworks overprinted by late SCP and locally quartz-sericite-pyrite alteration (**QSP**), remobilizing copper into the overlying breccias.

Similar to the Hushamu Deposit, at Northwest Expo there are silica-clay-pyrite (**SCP**), chlorite-magnetite (**CMG**), and chlorite-zeolite-carbonate (**CZC** - recorded as propylitic at Hushamu) alteration domains. In addition, at depth and peripherally within the hydrothermal system footprint is quartz-sericite-pyrite (**QSP**) alteration overprinting the earlier CMG and SCP alteration zones.



(Source: NorthIsle, 2024)

Figure 7-5 Northwest Expo Alteration Zones

SCP altered zones occur at Northwest Expo. SCP1 is above the CMG and SCP2 below the CMG alteration (Figure 7-5). The SCP1 and SCP2 alteration envelope essentially forms the boundary within which the resource has been modeled. There has been no copper-gold-molybdenum mineralization observed or recorded in CZC. The SCP alteration is a catch all term for silica with pyrite plus clays which range from illite-smectite at the distal margins of the alteration envelope to kaolinite-dickite transitioning to more intense pyrophyllite-diaspore alteration approaching the higher temperature, lower pH hydrothermal fluids within the hydrothermal up-flow zone or zones. Identification of clay mineralogy has been aided by the use of short-wave infrared (SWIR) mineralogy measuring devices. Pyrite typically comprises 10–20% of the rock. SCP alteration is texturally destructive, but in places relict highly altered clasts of the Bonanza Formation volcanoclastic clasts can be observed. In the interpreted higher temperature, lower pH zones, the fluorine bearing minerals zunyite and topaz (recorded by SWIR measuring instrument) occur locally. The boron bearing mineral dumortierite has also been observed in a few drillholes, which at Island Copper occurs at the base of the lithocap just above the porphyry ore body. SCP2 below the CMG generally has significantly less copper-gold-molybdenum grades than SCP1. It also has less fluorine bearing minerals and SIM texture. SCP alteration extends over a large area south and east of the deposit footprint (Figure 7-6).

CMG alteration at Northwest Expo is analogous to CMG at the Hushamu deposit and identical in appearance. There are number of interpretations regarding its formation in both locations, but in both cases, there are no examples recorded of this particular CMG alteration hosted ore type elsewhere in the world. The projected outcropping of CMG is shown on Figure 7-6. There is only one CMG outcrop observed at Northwest Expo.

Quartz-sericite-pyrite (QSP) alteration at Northwest Expo occurs as semi-pervasive potassium-illite+/- smectite alteration with associated weak silicification and up to 10% disseminated pyrite, generally underlying the CMG. Locally, QSP alteration manifests as late chaotic D-vein arrays with muscovite-illite halos that grade to chlorite-illite at the bounds.

Chlorite-zeolite-carbonate (CZC) alteration forms an abrupt contact with the underlying SCP1 alteration within the Bonanza Formation which retains the original texture of the volcanoclastics. The abrupt contact between the SCP alteration and CZC is interpreted as being due to of the upwelling acidic fluids abruptly reducing on intersecting the ground water table. There are zones within the volcanoclastics with reddish hematitic zones interpreted to be original weathered surfaces during hiatus in volcanic activity. There are several zeolites recorded with SWIR analysis, but the most abundant that can be visually observed is laumontite.

It is interpreted that the altering fluids emanating from the causative intrusion(s) at Northwest Expo invaded weakly to non-lithified Bonanza Formation volcanoclastic moving up from the causative intrusion then laterally as the water table was intersected and down any hydrologic gradient. This formed a tabular alteration/ore zone which has been tilted approximately 60 degrees northeasterly (Figure 7-5)

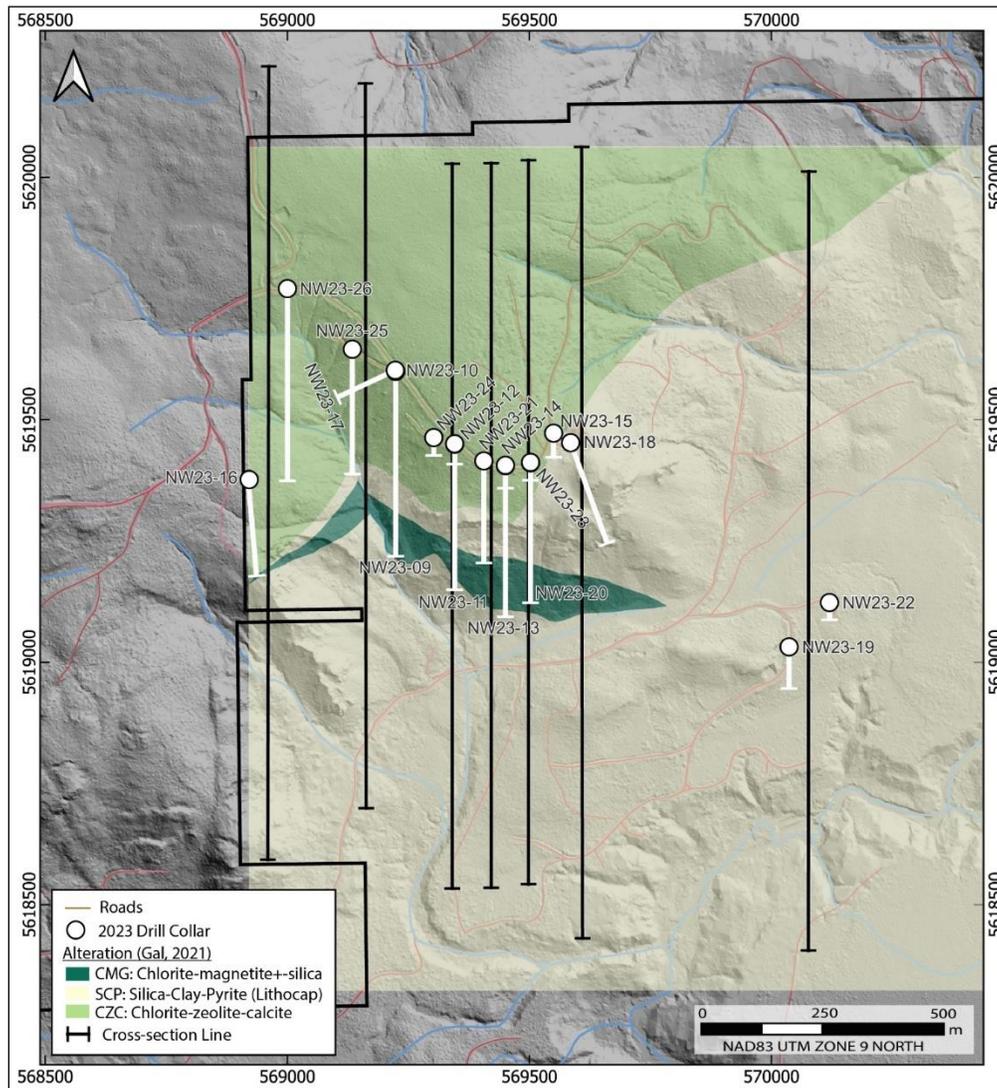
7.4.3 Mineralization

At Northwest Expo there is no leached cap as at Hushamu, but similarly the mineralization is within the SCP and CMG alteration zones.

SCP1 at its upper levels has background to low copper-gold-molybdenum-rhenium assay grades. Towards the basal 50 metres of the contact between SCP1 and CMG generally the gold grade becomes significant (>0.1g/t Au) along with molybdenum (>250ppm Mo) and associated rhenium (>0.5 ppm Re) grades. This increases down to the contact and diminishes progressing down through the CMG alteration. Conversely, copper grades are mostly low to background in SCP and generally increase abruptly at the SCP1 / CMG contact. Molybdenite occurs on fracture surfaces, as lesser veins and as blebs.

In **CMG** copper mineralization occurs as disseminated chalcopyrite and minor bornite and chalcocite associated with hydrothermal magnetite. Rarely, covellite has been observed along with bornite replacing it, indicating a second mineralizing phase. The gold grades at Northwest Expo are significantly higher than Red Dog and Hushamu. In the deeper portions of the deposit, porphyry related vein stockworks host weak gold mineralization and weak copper grades due it being mobilized into the overlying CMG.

SCP2 has significantly lower to background copper, gold and molybdenum grades.



(Source: Tolbert, 2023)

Figure 7-6 Northwest Expo Deposit Simplified Alteration Plan

7.4.4 Structure – Northwest Expo

There has been limited structural studies carried out at Northwest Expo due to sparse or inaccessible outcrops. The interpretations of structure have come from magnetic surveys and drill records of faulting.

The regional structural assessment at Northwest Expo, derived from Nixon et al, appears to adequately describe the structural relationships interpreted from field work and geophysics. Generally, there are NW-SE trending structures that appear to control porphyry emplacement and offsetting it due to reactivation during late extension. Additional work is required in this area.

7.5 Red Dog Deposit Geology

7.5.1 Lithology

The Red Dog deposit area is underlain by altered andesitic volcanic stratigraphy of the **lower Jurassic Bonanza Group** and at least five later intrusive phases. The deposit is centred on a **Quartz-Magnetite Breccia** (“QMB”) which forms a 350 x 150 m west-northwest trending body within the Bonanza Group volcanics between major ENE-trending faults.

Bonanza Group volcanics comprise auto-brecciated flows, tuff-breccia and much lesser fine tuffs and very-fine-grained sills. Stratigraphy and orientation of the volcanic package are poorly resolved due to homogeneity and later alteration; regionally the package is mapped as dipping gently to the southwest (Nixon et al., 2006).

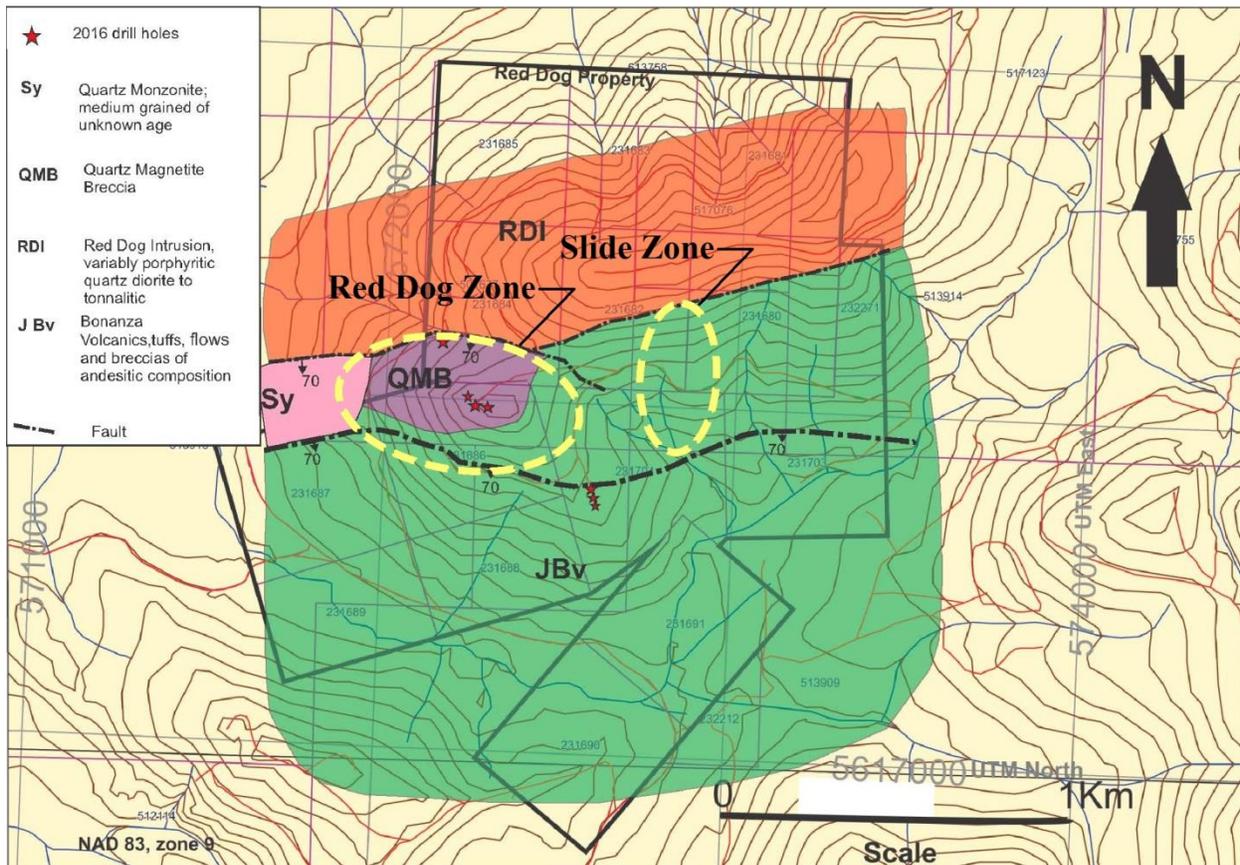
The oldest intrusions are the **Jurassic Red Dog Intrusions (“RDI”)**, which occur in a west-trending elongate stock in the northern portion of the deposit area and as numerous dykes cutting the Bonanza Group rocks to the south. The Red Dog Intrusions are predominantly porphyritic tonalite, consisting of <25 – >50% tabular phenocrysts of plagioclase (≤ 4 mm), lesser fine-grained hornblende and rounded quartz phenocrysts in a fine-grained felted matrix of the same minerals. The contact of the main RDI stock with the Bonanza Group is near vertical in the eastern part of the property; to the west the contact is a southwest-dipping fault (J.B. Richards 1991; 2016 AR). The dykes, referred to as Red Dog Porphyry, range from a few metres to tens of metres thick, strike westerly and dip steeply to the north. From their relationship with the mineralized wall rock, these dykes appear to be late mineralization phase intrusions.

The second intrusive phase in the Red Dog area is referred to as the **Rose Porphyry**, named for its distinctive pale greyish pink colour. It is characterized by its coarse porphyritic texture of rounded quartz eyes and medium to coarse-grained feldspar in a felsic groundmass. Any original mafic minerals are altered to sericite and chlorite. Quartz vein stockworks are developed throughout and the rock is well to moderately mineralized with magnetite, chalcopyrite, pyrite and lesser molybdenite. It has been observed in contact with the **Quartz Magnetite Breccia** with contacts often brecciated and obscured by intense silicification. The relationship between the Rose Porphyry and the Red Dog Intrusions is unclear and requires further study. The Rose Porphyry may represent a phase of the Red Dog intrusions that is intermediate in age between the main stock and the younger Red Dog Porphyry dykes.

An altered white to pale grey dioritic intrusive phase termed the **Feldspar Porphyry** outcrops for over 50 m in a creek in the southeastern part of the property. Based on the 2016 drilling to the southeast of the Red Dog knoll, it is likely that the Feldspar Porphyry is not a single body, but rather a dyke swarm cutting Bonanza Group rocks. It comprises tabular 2–3mm plagioclase phenocrysts in a fine-grained felsic ground mass. Mafic minerals, which form both 1-2mm phenocrysts and part of the groundmass are completely altered to chlorite. Fine-grained disseminated pyrite (~3%) is often oxidized to limonite.

A small stock of relatively fresh pink medium-grained **quartz monzonite** outcrops on the western flank of Red Dog Mountain and may extend to the southeast at depth. The contact between the quartz monzonite and the Red Dog Intrusion is obscured by Quaternary sediments but is interpreted as lying along the major east-west fault.

The youngest intrusions at Red Dog are uncommon, steeply dipping west-trending very-fine-grained dark grey to black **basalt dykes**, typically less than 3 m thick. Bedrock geology at Red Dog is overlain by a few to over 10 metres of **Quaternary** semi-consolidated siltstones, sandstones, conglomerates, breccia and lacustrine clay. These semi-consolidated sediments are in turn overlain by younger glacial till which forms apron-like benches on the lower to mid slopes of Red Dog Mountain and Knoll. Higher on the hillsides it is dominantly interbedded clast supported conglomerate, breccia, coarse sandstone and finer siltstone. The siltstones are clay-rich and are probably responsible for the numerous slide events that have occurred both recently and in the past. The thickest sections occur in the stream basin of the northwest side of Red Dog Knob and the upper and lower southeast slopes of Red Dog Knob. Figure 7-7 is a map of the Red Dog deposit main lithologic units.



(Source: Giroux and Casseleman, 2012)

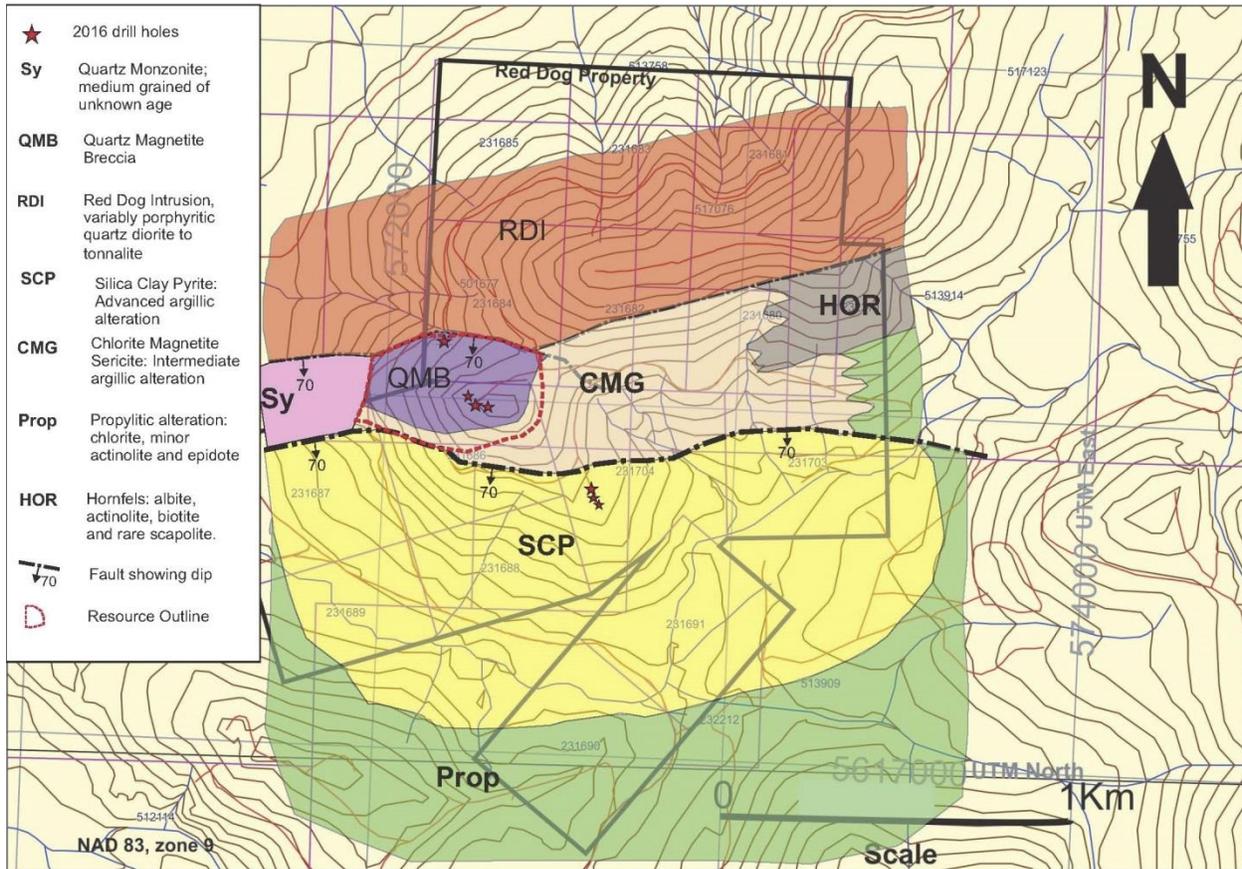
Figure 7-7 Red Dog Deposit Lithology

7.5.2 Alteration

Six alteration types are mapped in the Red Dog area: Hornfels (H); Intermediate Argillic (CMG); Quartz-Magnetite Breccia (QMB); Advanced Argillic (SCP); Propylitic (PROP); and Zeolite-Carbonate (McClintock, 2016), as illustrated in the map of Figure 7-8.

Hornfels alteration comprises very-fine-grained and well indurated andesite of the Bonanza Group with an assemblage of albite, actinolite, biotite and lesser chlorite, minor scapolite, ubiquitous magnetite, and minor fracture-filling pyrite. Hornfelsing occurs in a 300-m-wide band within the Bonanza Group

andesite parallel to the contact with the Red Dog Intrusive. It is best developed in the eastern part of the deposit area and is overprinted by Intermediate Argillic Alteration (CMG) to the west. The transition zone is typically 10 – 15 m wide and is marked by interfingering of the CMG alteration along fracture zones and porous volcanic units such as tuffs and breccias. Relict hornfels alteration persists to the west within more massive and less fractured units of the Bonanza.



(Source: Giroux and Casseleman, 2012)

Figure 7-8 Red Dog Deposit Alteration

The **CMG** alteration comprises replacement of mafic minerals and plagioclase by sericite, chlorite, quartz and magnetite. Quartz and magnetite occur both as pervasive replacement and as veins. The CMG alteration hosts pyrite and variable amounts of chalcopyrite, which is associated with increased alteration intensity and quartz veins. This alteration is associated with fractured dyke margins and affects adjacent Bonanza Group rocks and the outer margins of Red Dog Porphyry dykes.

The **Quartz-Magnetite Breccia** (“QMB”) forms a 350 x 150 m west-northwest trending body which is in fault contact with the Red Dog Intrusion to the north, terminates against late quartz monzonite to the west, and grades into quartz stockwork and intense CMG alteration to the south and east. The QMB comprises fine to very-fine-grained saccharoidal quartz surrounding sub-cm fragments of magnetite, chlorite, lesser sericite, chalcopyrite and pyrite. The QMB is hosted predominantly in the Bonanza andesite and extends into outer margins of the Rose Porphyry dykes.

Advanced Argillic Alteration (SCP) alteration consists of pervasive silicification, pyrophyllite, diaspore, kaolinite and pyrite. Locally, topaz, alunite and occasionally zunyite are present. This alteration affects Bonanza Group volcanics and lesser Red Dog Porphyry and Feldspar Porphyry dykes over a large area south of the CMG alteration. In the transition zone, the SCP alteration overprints CMG and follows fractures and permeable pyroclastic units of the Bonanza Group. To the south, SCP alteration grades into Propylitic alteration.

Propylitic alteration varies with host rock. In the Bonanza Group rocks, it consists of extensive chloritization of the primary mafic minerals, with epidote and pyrite generally occurring in cross-cutting fractures. In the intrusions, it consists of incipient to complete chloritization of mafic minerals and incipient saussuritization and sericitization of plagioclase phenocrysts. Intensity of the alteration is dependent on the distance from the contact with the Bonanza Group rocks. Pyrite in the intrusions is generally as disseminations with minor fracture fillings.

Common **Zeolite-Carbonate** veins and veinlets cut all rock types. The principal zeolite is laumontite and the accompanying carbonate is often pale pink in colour.

7.5.3 Mineralization

The Red Dog deposit extends 730 metres NW-SE by 400 metres width and 120 metres thickness occurring predominantly in a 350 x 150 m WNW-trending quartz-magnetite breccia localized in altered Bonanza Group rocks adjacent to quartz-feldspar porphyritic dykes. This breccia consists of angular clasts of fine grained finely veined CMG cemented by white to light grey silica. Chalcopyrite and pyrite occur as disseminations, blebs and fracture fillings with lesser amounts of bornite and molybdenite.

A second mineralized zone termed the Slide Zone lies 400 m east of the Red Dog deposit in altered Bonanza Group volcanics south of the Red Dog Intrusion stock. Mineralization consists of pyrite, chalcopyrite occurring as disseminations and fractures and molybdenite along joints and fractures. Steeply dipping northeast-trending late trachyte dykes cut the mineralization. Grade or tonnage estimates have not been calculated for the Slide Zone due to the difficulty in connecting geology and mineralization between holes.

7.5.4 Structure

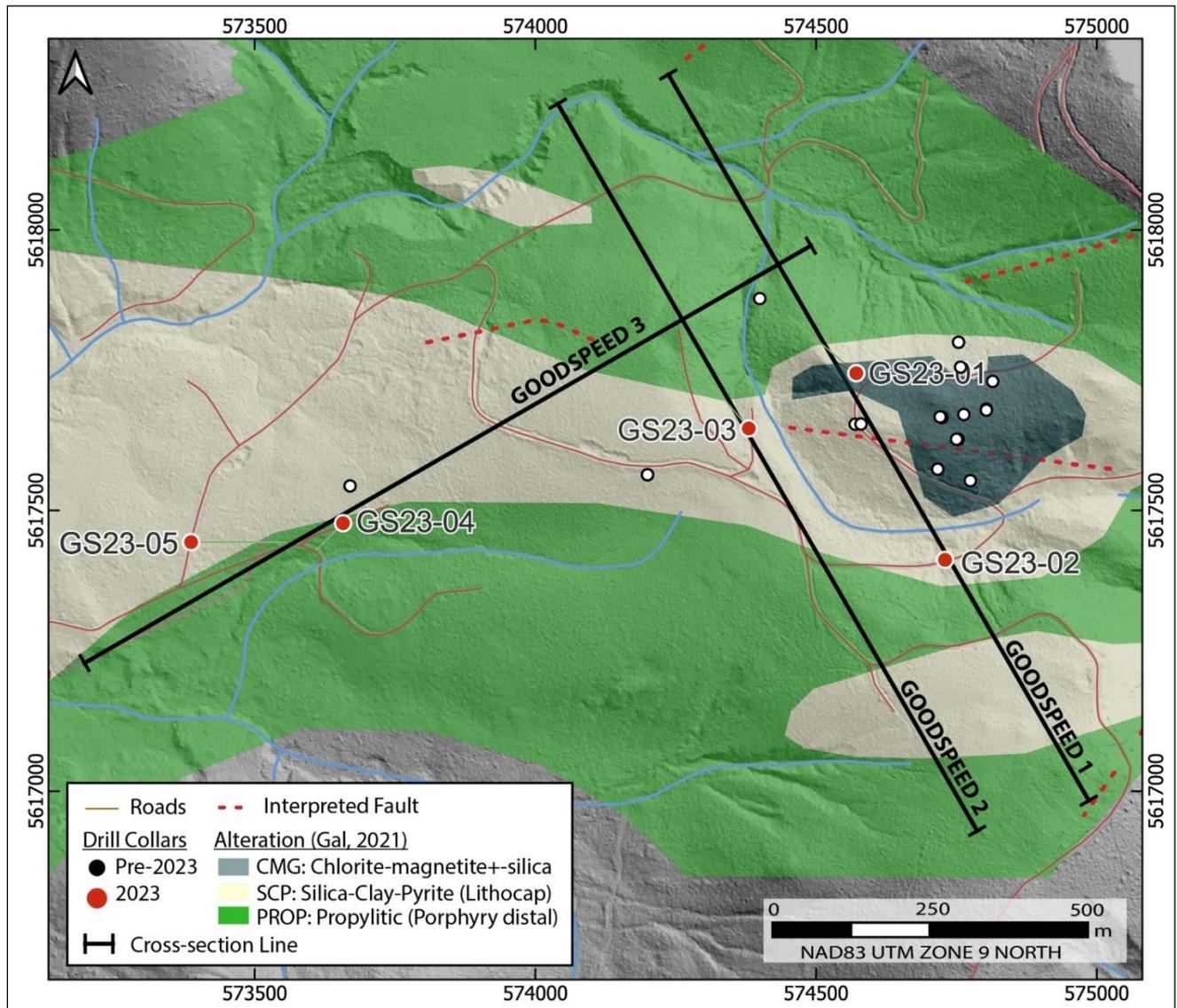
The dominant structures in the Red Dog area are south-facing faults with normal and/or strike slip movement resulting in a sequence of west-northwest trending fault-bound blocks. Two major such faults are present in the deposit area: 1) a steeply (70°) SSW-dipping fault north of the Red Dog Knoll separates the Red Dog Intrusion from altered Bonanza Group volcanics to the south; 2) three subparallel fault strands south of the Red Dog Knoll separate predominantly CMG-altered rock from SCP alteration to the south (McClintock, 2016). The southern fault spans 30 m width; each strand is 5 – 10 m thick consisting of alternating gouge and crushed rock. Movement on the fault is primarily normal with some strike-slip component.

7.6 Goodspeed Prospect Geology

The Goodspeed prospect area is underlain by andesitic feldspar ± hornblende-phyric flows, bedded tuffs, and agglomerates of the Bonanza Group, which are intruded by m- to dm-scale dykes of feldspar porphyry (including Rose Porphyry) and lesser narrow late mafic dykes (Gal, 2021). Siliceous hornfelsed siltstone to fine sandstone is observed stratigraphically below volcanic layers locally and is assigned to the Harbledown or Parsons Bay Formation (Gal, 2021).

At the Goodspeed showing roadcut, quartz-magnetite ± chalcopyrite veins and related breccias are hosted in chlorite-magnetite altered volcanics adjacent to an east-trending feldspar porphyry dyke (Gal, 2021). The area of strong magnetite alteration and associated weak veinlet and fracture-hosted chalcopyrite is inferred to cover approximately 500m x 200 m. The area is characterized by a linear magnetic high and resistivity low coincident with a Cu-in-soil geochemical anomaly (Baker, 2006). Clay-pyrite ± silica (SCP) alteration is often associated with dykes and appears to be structurally controlled. The dominant structural grain is east-northeast trending and steeply dipping, possibly representing the eastward continuation of a major fault in the Red Dog area.

Historic and 2023 drill results at Goodspeed have been modest (generally ≤ 0.2% Cu & < 0.1 g/t Au over 10s of metres). In 2023, two holes drilled in a magnetic high west of Goodspeed yielded low-grade Cu and elevated Au associated with sub-cm pyrite-sericite-quartz veins ('D-veins') over broad intervals (e.g. GS23-05 0.22% Cu & 0.315 g/t Au over 125 m from 109 – 234 m). These intervals are interpreted as peripheral to a porphyry deposit and this prospect is now termed West Goodspeed. Figure 7-9 is a map of the alterations found at Goodspeed.



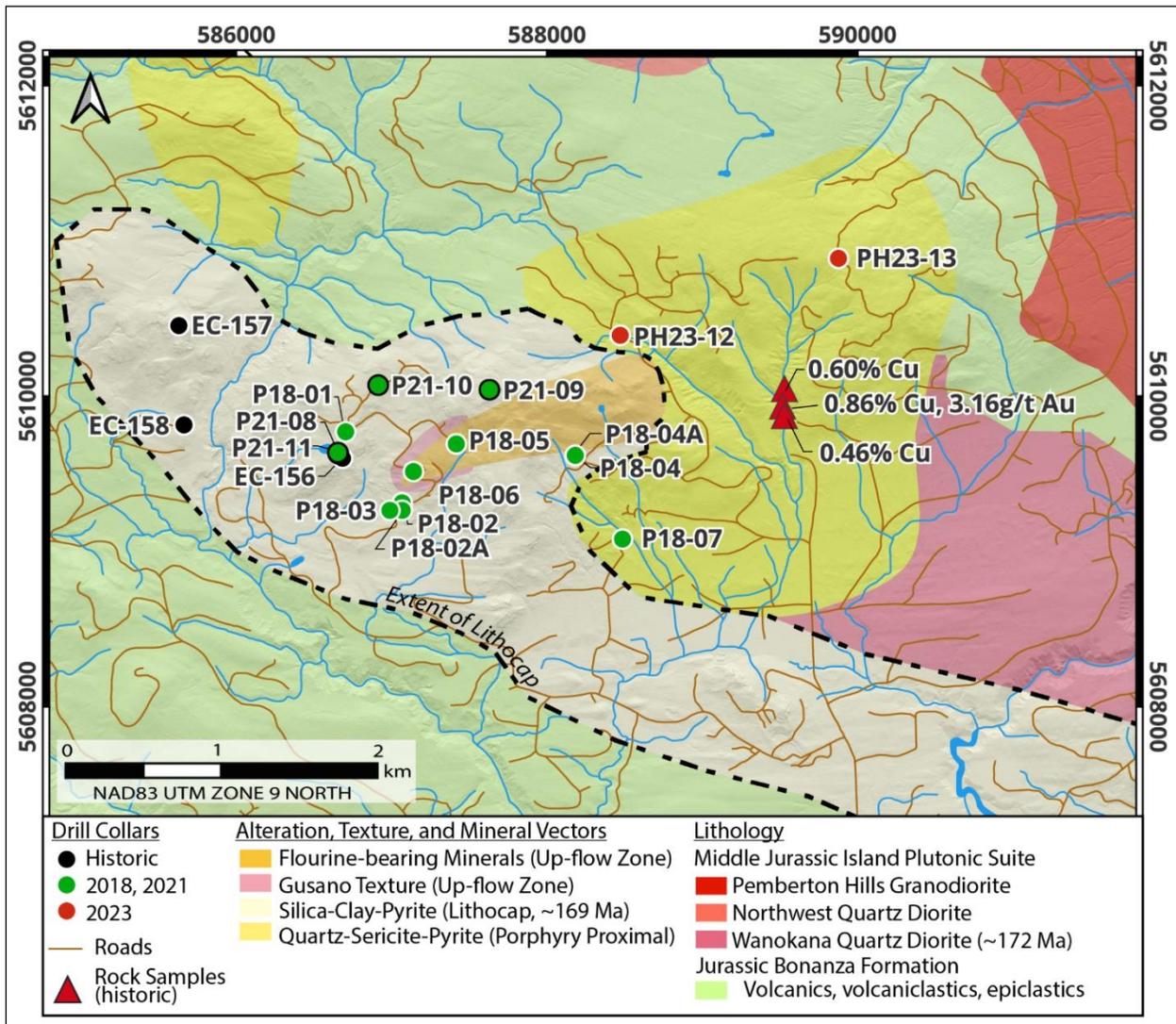
(Source: Gal, 2021)

Figure 7-9 Alteration and drillholes in Goodspeed target area Pemberton Hills Prospect Geology

7.7 Pemberton Hills Prospect Geology

Pemberton Hills is an early-stage prospect area where high-level intense hydrothermal alteration (clay, aluminum hydroxides, hydrous sulphates, and hydrous aluminosilicates) suggest potential for underlying Cu-Au mineralization over an ~1 x 2 km area.

Its proximity and analogous alteration styles to that of the Island Copper Mine in the southeast, and the Hushamu and Red Dog deposits to the northwest, the recognition of variably altered high level stocks and dykes, induced polarization (IP) anomalies and the presence of anomalous copper, gold and molybdenum within the alteration footprint are all significant attributes that support further exploration to evaluate the robustness and quality of the Pemberton Hills porphyry copper-gold-molybdenum target (McClintock, 2019).



(Source: Hamilton, 2021)

Figure 7-10 Pemberton Hills area geology/alteration and drillholes

8.0 Deposit Types

The Hushamu, Red Dog, and Northwest Expo deposits host Cu-Au-Mo-Re mineralization within the upper reaches of porphyry systems, though alteration and mineralization styles diverge from those of typical porphyry deposits (e.g. Sillitoe, 2010), possibly due to strong telescoping and/or epithermal enrichment (Perello, 1995; Sillitoe, 1994). Hushamu is similar in grade and size to the past-producing Island Copper Mine 29 km to the east, which produced 345 Mt of ore with average grades of 0.41% Cu, 0.017% Mo, 0.19 g/t Au and 1.4 g/t Ag (Perelló et al., 1995).

Porphyry deposits are related to mesozonal to epizonal intrusions of varying composition and are important producers of Cu, Au, Mo, and Ag globally (e.g. Ok Tedi, Bingham Canyon, Grasberg, Pebble, Oyu Tolgoi) and in B.C. (e.g. Island Copper, Galore Creek, Highland Valley, Kemess, Mt. Milligan, Afton and Endako). Porphyry systems typically form in orogenic belts at convergent plate boundaries and are associated with subduction-related magmatism. The deposits are directly related to epizonal stocks of widely variable composition that intrude coeval volcanic piles or other country rock. The causative intrusions are commonly multi-episodal and range from fine- to coarse-grained equigranular to porphyritic stocks, dyke complexes, and breccias (Giroux and Pawliuk, 2005).

Deposits at the North Island Project are best characterized as Au-rich calc-alkalic porphyry type; these deposits commonly form in sub-circular zones of brecciated and hydrothermally altered rock in and around the apex of a quartz diorite to quartz monzonite stock. Deposits developed in relatively high-level, subvolcanic environments are commonly associated with multiple dyke and breccia phases. However, deposits formed at greater depth are more often associated with broad zones of faulting in plutonic rocks (Panteleyev, 1995).

The juxtaposition of porphyry-style mineralization with intense lithocap-style alteration and the relatively high Au contents suggest a shallow level of formation for the North Island deposits and/or a significant reduction in paleosurface elevation during the life of the hydrothermal activity (Sillitoe, 1994). Disseminated chalcocite at Northwest Expo (Mulja, 2024) suggests possible epithermal Au enrichment. The morphology of the interpreted paleohorizontal semi-tabular lens of ore within lithocap-style advanced argillic alteration is atypical of porphyry deposits in B.C., though several deposits in Southeast Asia have similarities (e.g. Batu Hijau, Lepanto-Far Southeast, Ontario), possibly due to the tropical latitudes of Wrangellia at the time of formation.

Mineralization is hosted within the intrusive rocks and/or the host rocks and consists of quartz stockworks, veinlets, disseminations and replacements within large hydrothermally altered systems. Metallic mineralization is comprised of chalcopyrite, pyrite, bornite, molybdenite, magnetite, hematite and chalcocite. The large (up to 10 km²) hydrothermal systems are marked by distinctive alteration assemblages. The core of porphyry systems typically exhibits potassic alteration assemblages (potassium feldspar-biotite-magnetite ± anhydrite-diopside-garnet and commonly host the strongest Cu-Au mineralization as chalcopyrite and bornite. Peripheral to the potassic core extensive propylitic alteration consists of albite, chlorite, epidote, calcite, diopside, actinolite and pyrite. Potassic and propylitic alteration are often overprinted by phyllic (quartz-sericite-pyrite), argillic and, in the uppermost parts of deposits, advanced argillic alteration (Giroux and Pawliuk, 2005).

Advanced argillic alteration is prevalent on the North Island Project, often with full textural replacement of the protolith resulting in gusano texture (SIM) above the hydrothermal fluid upflow zone. The presence of magnetite-rich ore bodies enclosed by advanced argillic alteration is unexpected because

normally the acidic fluids responsible for lithocap formation are magnetite destructive. Laterally extensive lithocap environment with horizontal planar mineralization at Northwest Expo may be analogous to Lepanto, an epithermal Cu-Au deposit that formed in the lithocap environment above the associated Far Southeast porphyry deposit in Luzon, Philippines (Hedenquist et al., 1997). In the Onto lithocap-hosted high-sulfidation porphyry deposit on eastern Sumbawa Island, Indonesia, copper occurs predominantly as covellite deposited during advanced argillic alteration, though mineralized intrusions imply a magmatic source (Burrows et al., 2020).

Several styles of mineralization can be related to porphyry systems, including skarn and carbonate replacement (CRD), low- and high- sulphidation epithermal Au \pm Ag, and auriferous and polymetallic quartz \pm carbonate veins. These other styles of mineralization, in particular the polymetallic veins, form above and peripheral to the main-stage copper mineralization and can be used to vector towards Cu-Au mineralization (Giroux and Pawliuk, 2005).

9.0 Exploration

9.1 Hushamu

NorthIsle took over exploration activities on the property in the fall of 2011. A considerable amount of historical exploration and drilling, dating back to 1965, has been carried out on the property prior to NorthIsle's involvement, as documented in Section 6.0 of the report.

Since taking over the Project, NorthIsle (and Western Copper) completed a re-logging of 107 of the pre-2008 drillholes. This historic core had been in storage outdoors and many of the boxes were in poor condition. The process of re-logging first required careful re-establishing of core boxes' labels by determining the hole numbers, core box numbers, footage block depth, sample numbers, and sample starting and ending points. At all times during this process, the observations were corroborated and confirmed with the historical drill log geology and sample information. The re-labeled boxes were then organized and stacked in newly erected, covered, core racks in chronological order in preparation for re-logging and sampling. If unable to ascertain sufficient information to conclusively identify a hole, box, or sample interval, these boxes were not included in the re-log and not sampled. Approximately 75.6% of the historical samples were deemed suitable for re-sampling, amounting to some 5,800 re-samples.

The re-logging of core from the property, which is ongoing, involves logging observations of lithology, alteration, mineralization and magnetic susceptibility. Re-sample intervals were then laid out remaining true to the original sample intervals. A new, unique sample number was assigned. The core was then photographed. The re-sampling involves cutting the remaining half core with a core saw to collect a quarter sample.

The re-logging program provided an opportunity to apply consistent logging descriptions to the somewhat varied, and sometimes conflicting, historical observations.

In 2012, 2014, 2017 and 2021-2022 NorthIsle completed drill programs on the Deposit. The results of these programs are discussed in the Drilling section of the report.

9.2 Northwest Expo

Exploration prior to NorthIsle involvement dates back to 1974 and is documented in the history section of this report. NorthIsle initiated more intensive exploration in this area following the identification of gold mineralization in drill programs from 2005 through 2008. In 2021, NorthIsle drilled a total of 8 holes totalling 3,549m at Northwest Expo and to the east of this target, to test several geophysical anomalies which confirmed the presence of the higher-grade gold mineralization identified in previous reports. Additional drilling, totaling 8,622 metres in 18 holes, was completed in 2023, which led to the delineation of an initial resource at Northwest Expo in early 2024. Additional ground IP and magnetic surveys totaling 11.1-line km, and an airborne gradient magnetic survey totaling 439 line km have been completed in this area which has informed additional drilling being carried out during 2024.

9.3 Red Dog

NorthIsle optioned the Red Dog property in 2015 and commenced work in the spring and fall of 2015, including programs of structural and alteration mapping and limited geochemical soil and rock sampling and ground geophysics in 2021-2022. Prior to NorthIsle's involvement, a considerable amount of exploration work and drilling had been carried out at Red Dog, dating back to 1966, as documented in the Historical Exploration section of the report.

10.0 Drilling

10.1 Hushamu

10.1.1 NorthIsle Drilling at Hushamu – 2012-2022

During 2011-2012, NorthIsle re-logged the historical core from Hushamu, carried out additional drilling to better define the northern and southern limits, completed approximately 12 km of induced polarization survey over the projected northwest extension of mineralization and generated an updated NI 43-101 resource estimate (Giroux, 1993).

The objective of the 2012 drill program was to fill gaps in the historic drill pattern and to delineate the margins of the deposit. In 2012, down-hole orientation surveys were completed on all holes using Reflex Instruments EZ Shot system. Two holes drilled in the deposit in 2008, HI08-03 and HI08-08, have also had down-hole orientation surveys using the Reflex Instruments Maxibor II system. All other historic holes have not been systematically surveyed by down-hole orientation surveys. Certain of these holes have had acid tests taken at the bottom of the hole to determine the dip at that location, but there is no azimuth information. Drillholes generally deviated to varying degrees and the deeper the hole, the greater the deviation. In general, holes tend to flatten out and swing to the right, although they can deviate in any direction. The direction and amount of deviation is dependent on a number of factors such as the clockwise rotation of the drill rods, anisotropic characteristics of the rock, underground cavities, and the pressure put on the drill head when drilling.

In 2014, NorthIsle completed five NQ and HQ holes (H14-01C, H14-02, H14-03, H14-04 and H14-05) for a total of 1,835 m. Most of the drilling was designed to test the Induced Polarization (IP) and magnetic anomalies lying northwest of the Hushamu Deposit. It was hoped that the IP anomaly might be sourced from a faulted offset of the main Hushamu Deposit. A single hole was drilled in the northern part of the Hushamu Deposit with a dual purpose of filling in an area of wide spacing in the drill pattern and to collect core that could be used for a future metallurgical sample.

Copper mineralization and the favourable CMG alteration was encountered in drillholes H14-01C, H14-02 and H14-03, and requires further investigation by drilling.

The 2014 Hushamu drill program was performed by Kluane Drilling Ltd. of Whitehorse, Yukon. Kluane used one KD1000 drill rig mounted on skids. Core logging and sampling supervision was completed by NorthIsle and assaying was performed by ALS Laboratories Ltd. of North Vancouver, B.C.

In 2017, NorthIsle drilled five holes at Hushamu including three holes to test an area of the Hushamu Deposit previously determined to be low-grade mineralization based on three widely spaced vertical historical holes. Another hole was drilled to test for continuation of copper, gold, and molybdenum mineralization to the southeast of the known deposit but was abandoned prematurely due to driller error. A single hole was drilled in the northern portion of the Hushamu Deposit to collect a metallurgical sample of the two main alteration types in the deposit. The 2017 holes are included in the current block model. There is no recorded production from the Hushamu Deposit.

Core logging was conducted in 2014 at the former mine site of the Island Copper Mine, and in 2017 at NorthIsle's core facility at the Quatsino Industrial Site. The core was measured, geologically

examined, logged, and marked for sampling. Core samples are selected and bagged; the half core that remains after sampling is stacked by hole in core racks in an area adjoining the core logging facility.

For both the 2014 and 2017 drill campaigns, a Reflex single-shot survey tool was used at 30 m downhole intervals to provide in-hole survey data. Drillhole locations were determined by a handheld Garmin GPS.

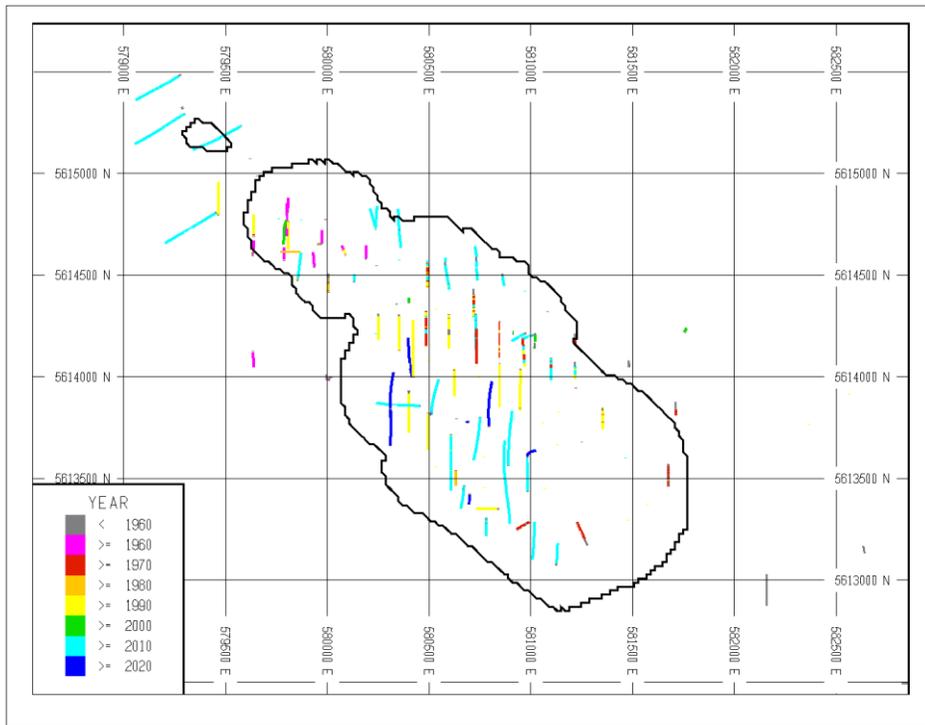
The 2017 Hushamu drill program was performed by Peak Drilling Ltd. of Courtenay, B.C. using a drill rig mounted on skids. Core logging and sampling was completed by NorthIsle, and assaying was performed by Bureau Veritas Laboratories, Vancouver, B.C.

Five NQ and HQ diamond drillholes, totaling 1,556 m, tested the Hushamu deposit in 2017. Core hole H17-01 collected a metallurgical sample. Core holes H17-02, H17-03 and H17-04 tested an area in the south-central part of the Hushamu deposit previously determined to be low-grade mineralization based on three widely spaced vertical historical holes, and core hole H17-05 was drilled to test for continuation of copper, gold and molybdenum mineralization to the southeast of the known deposit. Indication of mineralization continuing to the southeast was suggested by a shallow historical hole drilled about 200 m to the northeast of the collar of H17-05.

The results from the three holes in the south-central part of the deposit demonstrated that this previously believed low-grade area contains appreciable copper, gold, and molybdenum mineralization. The 2017 drilling confirmed that the three historical vertical holes, upon which the low-grade nature of the area was based, had passed along near vertical post mineral breccia dykes and their associated sulphide destructive alteration. Further, the 100 to 150-m-thick previously assumed Leach Cap in the southern area of the deposit was found to contain significant areas of copper, gold, and molybdenum sulphide mineralization. Oxidation and leaching of sulphide were found to be restricted to relatively narrow north-easterly dipping fault zones. Determining the amount of mineralization above cutoff between the three historical drillholes and what part of the previously assumed Leach Cap is actually mineralization will require in-fill drilling of southerly oriented angle holes.

Core hole H17-05 was drilled to test for continuation of copper, gold, and molybdenum mineralization to the southeast of the known deposit. Indication of mineralization continuing to the southeast was suggested by a shallow historical hole drilled about 200 m to the northeast of the collar of H17-05. The 2017 hole was lost at 225 m due to intensely fractured and faulted rock in the upper part of the hole. Copper, gold, and molybdenum values were encouraging over the final 125 m with grades increasing towards the end of the hole. The hole should be re-drilled to its originally planned depth of 400 m, and a further 100 m step-out hole to the southeast is recommended.

In 2018 NorthIsle moved the core logging, sampling and storage facility to Port Hardy. The objective of drill programs, totaling 4,964 metres in 10 holes, carried out in 2021 and 2022, using HQ and NQ core was the start of a program to upgrade volumes of inferred resource, defined in the 2021 PEA report, to indicated resource. The drilling program was carried out by Full Force Diamond Drilling. The rejects and pulps of analyzed core, and rock samples from all North Island projects are stored at West Coast Mineral Storage in Aldergrove, BC.



(Source: MMTS, 2024)

Figure 10-1 Plan Map of Drillholes – Hushamu

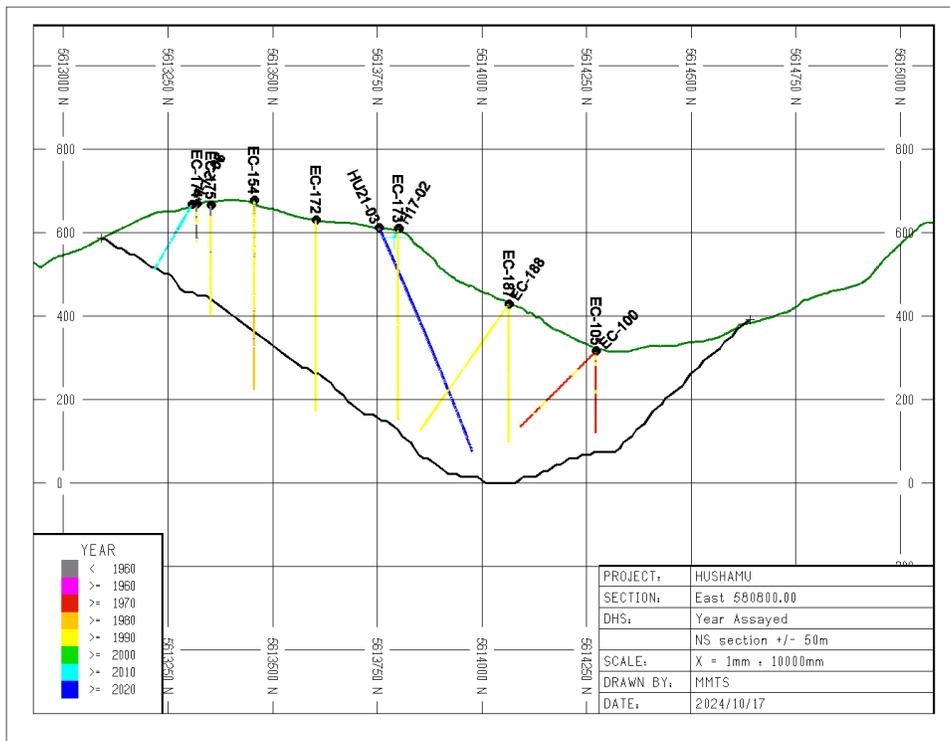


Figure 10-2 Drillhole Section – Hushamu

10.2 Northwest Expo Drilling by NorthIsle – 2021-2022

In 2021 NorthIsle commenced exploration at Northwest Expo and the surrounding area and drilled 8 HQ and NQ holes totaling 3,549 metres. Of these 3 holes totaling 1,532 metres were used in the resource estimate block model as the other holes were located outside of the deposit footprint. The drill program was completed by Full Force Diamond Drilling Ltd. of Peachland, B.C. Full Force who supplied one skid-mounted Zinex A5 diamond drill and one bulldozer, which they used to build access trail and level drilling areas, as well as move the drill between pads. Water for the drilling was sourced from local creeks and runoff with fine mesh screens at the intake hose to avoid fish uptake. Drill cuttings were drained into sumps and percolated readily. An excavator was rented from North Island Rock Pro of Port Hardy, BC., and was used for excavating sumps and reclamation.

In 2022 NorthIsle contracted McElhanney Ltd. to complete an airborne LiDAR and photographic survey over the North Island project area. This was flown in May and July 2022 over 26 lines with 60% overlap totaling 893-line km. A base line was established near Nahwitti Lake which allowed x, y, z accuracy of less than 18 cm for the resulting topographic, orthophoto and LiDAR products that have been used by NorthIsle and in the resource estimation model.

10.3 Drilling at Northwest Expo, Pemberton Hills and Goodspeed – 2023

The 2023 diamond drilling campaign consisted of 11,283 m in 25 drillholes at the Northwest Expo (18 DHs), Goodspeed (5 DHs), and Pemberton Hills (n=2) targets. Drilling on Goodspeed from July 31 – Aug.17 consisted of 1626 m in five (5) drillholes. Drilling at Northwest Expo consisted of 8622 m in 18 drillholes, drilled from May 25th - July 23rd, and from Nov. 1st – Dec. Two drillholes (1035 m) were drilled in the Pemberton Hills target area from Sept. 28th - Nov. 1st. Drillholes were started with HQ-diameter core and reduced to NQ when ground conditions were favourable, typically between 150 – 250 m depth.

The Northwest Expo drillholes were targeted to extend known mineralization to the northwest and downdip and define the geometry of the mineralized body. Goodspeed drillholes were targeted using regional aeromagnetic high anomalies and surface geochemistry in hopes of intersecting mineralized CMG alteration or stockwork as seen at the Goodspeed showing. At Pemberton Hill, significant mineralization remains elusive, but alteration clay mineralogy was used to try and identify the up-flow zone within the extensive lithocap in hopes of identifying the causative porphyry stock.

Drilling was completed in two phases: May 25th – Aug. 18th (Phase 1) and Sept. 8th – Dec. by Full Force Diamond Drilling Ltd. of Peachland, B.C. Full Force supplied one skid-mounted Zinex A5 diamond drill and one bulldozer, which they used to build access trails and to level drilling areas, as well as move the drill between pads. An excavator was rented from North Island Rock Pro as needed and was used for excavating sumps and for site reclamation. Water for the drilling was sourced from local creeks and runoff with fine mesh screens at the intake hose to avoid fish uptake. Drill cuttings were drained into sumps and percolated readily.

Drillhole collar locations were surveyed with handheld GPS (Garmin, accuracy ± 3 m) and orientations were sighted using a compass with the proper declination for the area (16.75° E). After drilling was completed, the collar locations were surveyed by McElhanney Ltd. using a Total Station GPS. To model changes in azimuth and dip along the length of the hole, a DeviGyro down-hole survey tool was used to survey in and out of the drillhole.

10.3.1 Core Processing – 2023

On-site geologists logged the lithology, mineralization, alteration, major structures, vein assemblages and magnetic susceptibility of all drill core. Geotechnical measurements consisted of total core recovery (TCR), hardness, basic rock quality designation (RQD) and dry bulk density. Magnetic susceptibility was recorded as point data every metre using GDD's MPP instrument. The drill core was digitally photographed including complete box photographs as well as detailed unit, mineralization and alteration photographs. Samples for assaying were cut by core saw along the length of the core and as this is a bulk tonnage deposit samples were generally of 2 to 3 metres length depending on whether the core was HQ or NQ respectively.

A plan map and section view of the drilling at Northwest Expo is found in Figure 10-3 and Figure 10-4 respectively.

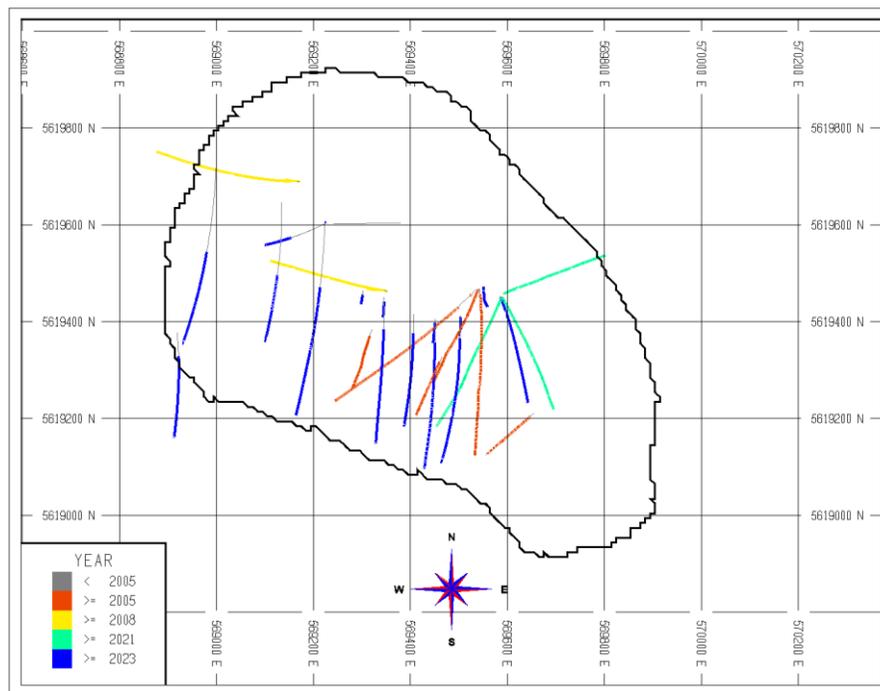


Figure 10-3 Plan Map of Drillholes – NW - Expo

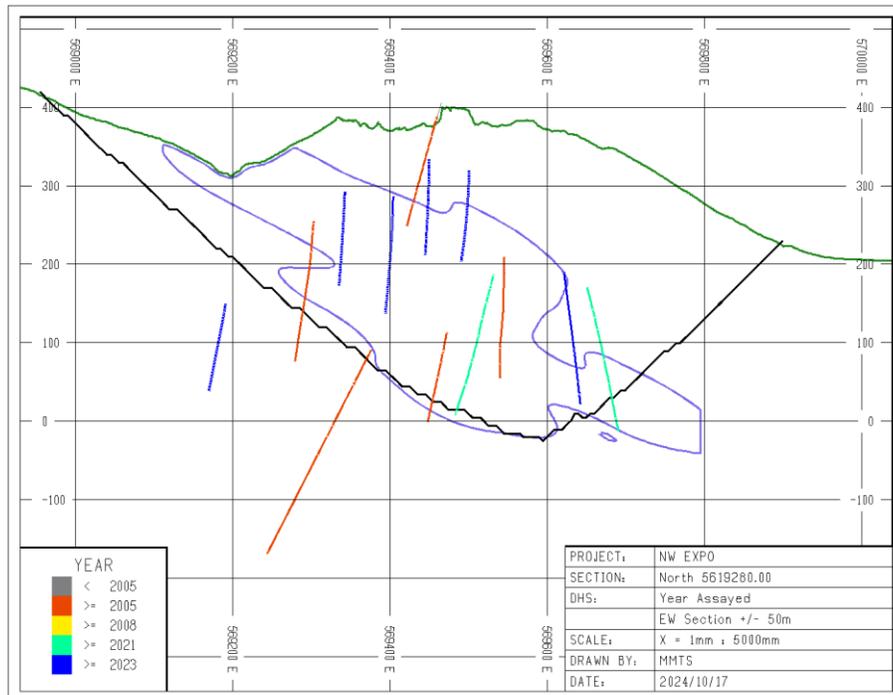


Figure 10-4 Drillhole Section - NW – Expo

10.4 Red Dog Drilling

10.4.1 Red Dog Drilling by NorthIsle – 2016-2022

In March 2015, NorthIsle optioned the Red Dog property from William Botel and Tanya Veerman and in April 2015 conducted a limited program of soil and rock geochemical sampling and reconnaissance geological mapping. The purpose of the geochemical sampling was to determine if the still open copper and gold mineralization at Red Dog continued westward to the area at NorthIsle’s current claims where a prominent IP chargeability anomaly was detected by a 2012 survey. In total, 30 soil samples and 11 rock samples were collected. Geological mapping focused on confirming the existence of the previously reported abrupt change in alteration from intermediate argillic alteration to high level advanced argillic alteration, which marks the south boundary of the Red Dog Deposit. Samples of the advanced argillic alteration lying to the south of the Red Dog Deposit were analyzed by PIMA spectral analyses to compare the Red Dog alteration to the high-level alteration overlying the porphyry copper mineralization at the nearby Hushamu Deposit. Results of the soil sampling suggest the Red Dog mineralization continues west and northwest towards the 2012 chargeability anomaly and warrants further exploration. Rock sampling showed that rocks with appreciable copper and gold are localized near the Red Dog Deposit and in areas with high copper and gold in soils. Geological mapping found the alteration zone surrounding the Red Dog Deposit significantly larger than previously documented and the advanced argillic alteration is likely fault bounded to the copper-gold mineralization hosting potassic and intermediate argillic alteration.

In September 2015, a second program of geological mapping was conducted on the property by NorthIsle with the objective of better defining the contacts between the alteration types identified by the April 2015 program and extending mapping to the east of the Slide Zone. To help characterize the alteration types, spectral analyses and a thin section study were conducted. A total of 41 grab samples

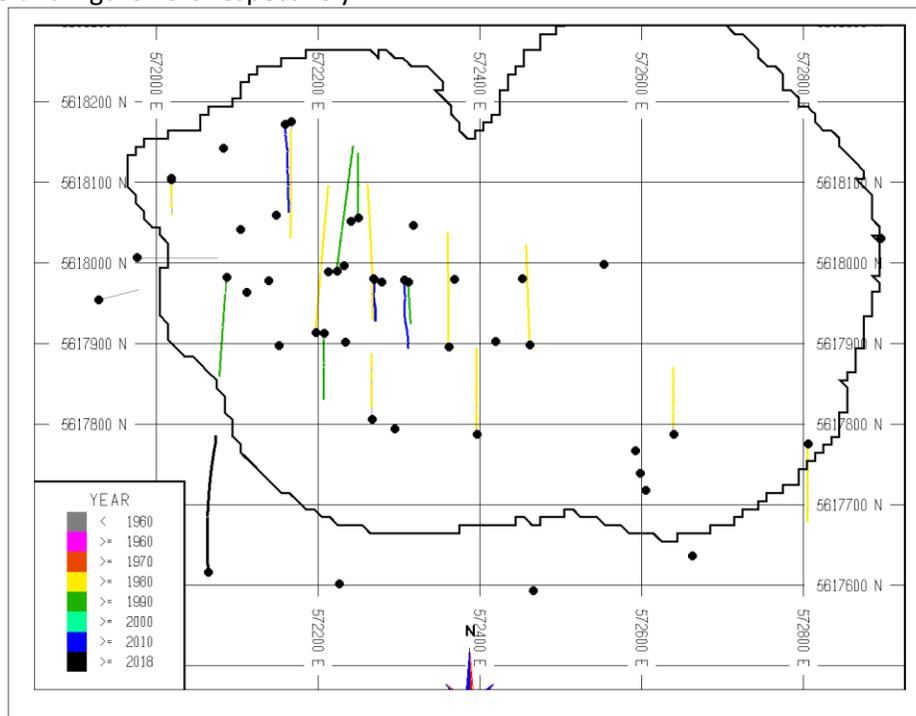
from the Red Dog area were analyzed by TerraSpec spectral analysis and eight thin sections were prepared and analyzed by Vancouver Petro Graphics.

From July to August 2016, a diamond drilling program, totaling 1,112 m in seven holes, was conducted by NorthIsle. Most of the drilling was directed at the Red Dog Deposit in order to verify historical copper-gold mineralization and to provide data for a 43-101 compliant resource estimation.

In 2017, NorthIsle attempted one drillhole to test for deeply buried copper, gold and molybdenum porphyry mineralization south of the Red Dog Deposit. The hole was lost prematurely and did not reach the target depth.

In 2018 NorthIsle drilled two holes peripheral to the Red Dog Deposit totaling 897 metres. A hole was drilled 225 m south of the deposit to test porphyry style mineralization south of the fault on the south side of the deposit. It was drilled north through mapped advanced argillic alteration through the fault, but intersected propylitic alteration to 504 m depth. The second hole was drilled 760 metres WNW of the Red Dog on a 2012 IP anomaly. It drilled through pyritic advanced argillic alteration to 247 metres explaining the IP anomaly, then propylitic alteration to 293 m at end of hole.

A plan and section view of the drilling done at Red Dog illustrating the Year of Copper assaying is shown in Figure 10-5 and Figure 10-6 respectively.



(Source: MMTS, 2024)

Figure 10-5 Plan Map of Drillholes – Red Dog

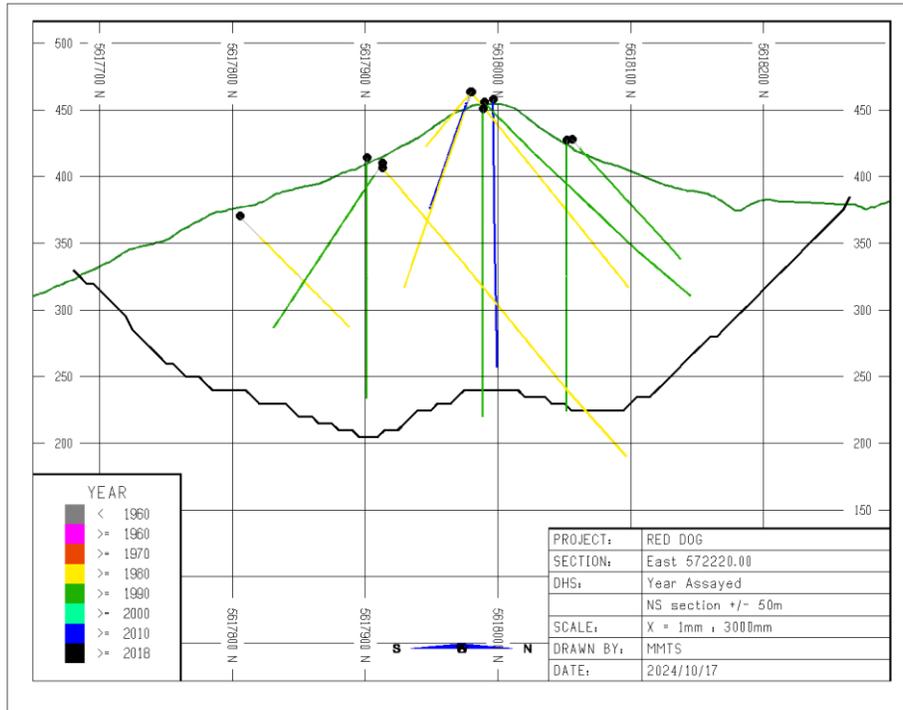


Figure 10-6 Drillhole Long Section - Red Dog

11.0 Sample Preparation, Analyses and Security

11.1 Hushamu and Red Dog Historical Sampling Procedures and Security

The following paragraphs contain detail about sampling procedures, analyses and security for historical drilling campaigns at the two properties, as recorded in their respective ARIS reports as referenced in the text. No comparable information is currently available for drilling from 1968-1978 which would have covered drillholes EC-018 to EC-128.

11.1.1 Red Dog 1982

At Red Dog in 1982, according to ARIS reports 10982A and 11048A, half core samples were cut from selected diamond drill core and sent to Chemex Labs in North Vancouver via Pacific Coach lines, while the remaining half was stored in a core storage facility on Expo claim No. 237. Hand-written assay results for Au, Ag, Cu, and Mo have been included in report 10982B or 11048B though original lab certificates were not copied and analytical methods at the lab not detailed in the text.

11.1.2 Red Dog 1983

According to the assessment report 12027, drill core produced at Red Dog in 1983 was sampled in 10 ft. intervals (half-core) and assayed for Cu, Mo, Au, and Ag at Utah Mines Ltd.'s laboratory at Island Copper in Port Hardy, using a fire assay method for Au and AAS for Cu, Mo, and Ag. Remaining core was stored at the company's logging facility at Holberg.

11.1.3 Hushamu 1985

Of the holes drilled in 1985 at Hushamu, only EC-154 and EC-155 have been included in the resource update. As reported in ARIS 14058, half core samples were cut in generally 5 ft. intervals and analyzed for Au and Ag (fire assay) as well as Cu, Mo, and Fe (XRF) at Island Copper Ltd. in Port Hardy. Select samples were sent on to ACME Analytical Laboratories in Vancouver, BC, to be analyzed for an extensive range of additional elements using ICP and some whole rock analyses. Remaining core was being stored at Island Copper near Port Hardy.

11.1.4 Hushamu and Red Dog 1988

In 1988 at Red Dog, core was again split in half for sampling after being marked out in 10 ft. intervals, with the sampled half being shipped to ACME in Vancouver and the remaining core being stored at the Trails End Motel in Holberg. The authors of ARIS report 18023 reference ACME lab certificates in the text as being attached to the geological logs, however only hand-written Au, Cu, Mo and some Ag data could be located.

A small drill campaign at Hushamu in late 1988 resulted in approx. 763m of core from 5 holes, the remaining core of which reported as being stored at the Island Copper facilities in Coal Harbour. 306 total samples were taken to ACME in Vancouver for an aqua regia digestion of 0.5g of sample material and an ICP finish, resulting in the reporting of Ag, Cu, Mo, Pb, and Zn. Au was analyzed by acid leach and atomic absorption of a 10g sample split. Copies of the original ACME certificates are attached to ARIS report 19386.

11.1.5 Red Dog 1989

1989 saw the drilling of 764m in 7 holes at Red Dog. No details about sampling procedures were given in ARIS 19390. Reference core halves were stored near the site of drillhole EC-167, while sampled half core was sent to ACME in Vancouver.

11.1.6 Hushamu and Red Dog 1990

In 1990, Moraga ran two drilling campaigns at Hushamu. The first completed 5 holes, and one preexisting drillhole was extended to 188.4m (EC-154). Overall, 1,823.6m were drilled (ARIS report 20117) but no detail about the sampling procedures were recorded. Chemex Labs was contracted to analyse for Au (FA-AAS of 10g charge) as well as various metals, including Cu, Mo, and Ag (aqua regia digestion with ICP-AES finish). The second campaign, according to D. Pawliuk in report 21612, accomplished 2,347m of drilling in 8 NQ-sized holes (EC-181 to EC-188). The split core samples were shipped by bus to Chemex Labs Ltd. at North Vancouver, B.C. The samples were ground to -80 mesh then 0.5g was digested in 3ml 3-1-2 HCL-HNO₃-H₂O at 95°C for one hour then diluted to 10 ml with water and analyzed by ICP methods. Gold analysis was by acid leach with an AA finish from a 10g sample.

Also in 1990, 11 holes for 1,850.6m were drilled at Red Dog. According to Daiwan Engineering (ARIS report 20610), drilling was executed by Olympic Drilling Ltd. of New Westminster, BC using a unitized Longyear Super-38 drill. HQ tools, recovering 64mm HQ diameter core, were used from the collar of several holes to maximize core recovery and sample size for future metallurgical test work. NQ tools were used for the remainder of the coring, recovering a 48mm diameter core.

All core was transported by truck to the logging facility at the Trails End Motel at Holberg. The core was logged in detail by J.B. Richards, P.Eng. and R.T. Holland on GEOFORM computer forms. The core was marked out in intervals of 3 metres and split lengthways, with half being returned to the core box to be stored at Holberg and half sent for assay. Assaying was done by Acme Analytical Laboratories Ltd. of Vancouver.

11.1.7 Red Dog 1991

1991 drilling at Red Dog saw 8 holes drilled for a total of 1,241m. Sampling and assaying procedures were as described for the previous year (ARIS report 21352 by J. Richards). Drill bit size for the bottom 59m of hole 91-7 was reduced to BQ. ACME certificates as attached to the report state that 1g of sample was leached in 50ml of aqua regia, finished by ICP, for Cu and Mo assays, while Au was determined by acid leaching of a 20g charge followed by AA analysis, reported in oz/t.

11.1.8 Hushamu 1991-1994

At the end of 1991 and into 1992, Moraga also completed 13 drillholes at Hushamu for a total of 4,832m (ARIS report 22292 by D. Pawliuk). The assaying procedures matched the ones from 1990 (Chemex Ltd.), and the remaining half core was transported to be stored at BHP-Utah Mines Ltd.'s Island Copper mine site at Rupert Inlet.

In 1994, 4 holes, namely EC-211 to EC-214, were completed for 972m at Hushamu (ARIS report 23407 by D. Pawliuk). The sampling and assaying procedures are reported to match the ones from 1990-1992.

11.2 Hushamu and Red Dog Sampling Procedures and Security from 2005-2022

11.2.1 Hushamu and Red Dog – 2005

After a hiatus of 10 years, Lumina Resources in 2005 drilled multiple holes at Hushamu, EC-215 to EC-217 for 1,103m in a summer campaign and EC-219 to EC-232 for a total of 1,589m in late 2005. Driftwood Diamond Drilling Ltd. of Smithers, British Columbia conducted the drilling using their 38 skid-

mounted drill with NQ-sized tools for road sites and their hydraulic flyable drill and BTW-sized tools for off-road sites.

As detailed by D. Baker in ARIS 28375A, drill core was placed in core boxes by the drill crew and systematically logged by the geology staff almost as soon as it was available. The sampling staff photographed the core and prepared it for sampling. Core was cut with a rock saw. In gouge or other areas where the rock was not competent enough for sawing, half of the core was cut with a spoon and placed into the sampling bag.

The sampling staff inserted standards CU116 and CU132 for accuracy control as specified in the quality sample handling procedure memo. For every 60 samples, one randomly selected sample was quartered and re-sampled as part of the QA/QC program. Standards and blank material samples were each inserted at a frequency of one in 30 samples. For blanks, Quatsino limestone was initially used but after high-Cu background readings, the blank was switched to a silica sand. There was every indication that the procedure was being strictly followed and QC sample coverage was adequate for the drilling.

Samples for assay were placed in heavy plastic sample bags. Bar code tags provided by the lab were included in the bag. The tags were constructed of a material that was not affected by the sample or handling. Bags were also labeled with indelible marker. Plastic ligature-type ties were used to seal each individual sample bag. It appeared that any tampering with the bag or the tie would be immediately evident when the sample arrived at the lab. Additionally, groups of sample bags were placed in larger even more durable rip-stop mesh plastic bags. These were labeled with marker and closed with a larger plastic ligature seal. Any tampering with the larger bag would be apparent on arrival at the lab. Bags of samples were shipped by commercial bus lines from Port Hardy, British Columbia to Vancouver, British Columbia. Documentation was provided to prevent a mix up in the samples from occurring either during shipment or at the lab.

Downhole surveys were conducted using a Flexit downhole instrument supplied by Fordia, Sudbury, Ontario and core logs were created using Lager software from data entered directly into the Lager databases. During the autumn program, drill core was logged, sawn and sampled at a core tent facility established at the Trails End Motel in Holberg. Magnetic susceptibility data was collected from all drill core by taking three readings within every drill run and averaging the value.

Core samples were analyzed by ALS Chemex Labs of North Vancouver for Au (30g fire assay method Au-AA25) and 25 other elements including Cu and Mo by HF-HNO₃-HClO₄ acid digestion, HCl leach and ICP-AES (Me-ICP61a). Pulp assays were carried out for high geochemical values of Au, Ag, Pb, or Zn.

All remaining core was transported to be stored at the long-term storage racks at Port Hardy Bulldozing, Port Hardy.

11.2.2 Hushamu and Red Dog – 2008

In 2008, two holes were drilled at Hushamu (HI08-03 and HI08-08). According to the 2011 Technical Report by A. Burgert and J. Houle, IMA implemented a chain of custody protocol to track each sample and sample batch through all stages of sampling and shipping progress from the core handling facility to the analytical facility. This was initiated as each sample was taken, when geologists entered sample numbers and sample intervals on the core log. A sample batch was defined as a series of core samples taken from a single drillhole between consecutive sample shipments. Analytical results for each sample

batch were reported as a separate work file by ALS Chemex. After cutting and sampling of each sample batch, including field blanks and standards, the core technicians placed them in order into consecutively numbered rice sacks, six samples per rice bag. Rice bags were then sealed with plastic cable ties and stored in a securely locked room until they were placed on pallets and picked up weekly from the core logging facility and transported to the analytical facility by VanKam Freightways Ltd., a bonding trucking company, and their Port Hardy affiliate, Busy Bee Trucking Ltd.

Each sample batch was logged in an ALS Chemex Sample Submittal Form. The following details were recorded: shipment and work order numbers, date dispatched, list of sample numbers, type and total number of samples in the shipment. In addition, a unique waybill number was assigned to the sample shipment by the trucking company and entered on the submittal form. The waybill form was completed by the truck driver with details of shipment and the number of pallets loaded.

Upon receipt of the samples in North Vancouver, ALS Chemex made a record of all samples received. The rice bags were opened, the samples placed in order and each sample assigned an internal laboratory identification and a batch file number that corresponded to the IMA work order.

Field blanks (blanks), coarse crush duplicates and standard reference materials (standards) were included in each sample shipment (minimum 2 sample batches per shipment) which always contained at least five of each these three types of quality control samples. Sample numbers within the continuous sequences on each book of samples tags were allocated for the insertion of blank crushed rock and standard reference pulps by the Geologists prior to sampling. These materials were inserted by the Core Samplers within the sample stream prior to packing samples into rice sacks. The nature of these materials is described below. The coarse crush duplicates were designated using “a” and “b” suffixes after the same sample number and analyzed by ALS Chemex. The “b” sample data has not been provided for review by MMTS.

All samples sent to ALS Chemex were subjected to 250g splits of the entire sample crushed to $\geq 70\%$ passing 2 mm. The samples were pulverized to $\geq 85\%$ passing 75 μm (- 200 mesh). A 30g split from each sample pulp was assayed for Au (fire assay with atomic absorption finish, 5 ppb detection limit) and 33 element analysis Cu, Mo (four acid, total digestion with ICP emission spectrometry finish). ACME Labs was used as an independent lab to complete check analyses on a split of 1 in 20 pulps using the same analytical procedures as initial analysis completed by ALS Chemex. These check sample batches were accompanied by IMA’s own standard reference materials as well. These sample certificates have not been provided to MTS.

After receipt of all initial analytical results from ALS Chemex, continuous intervals of elevated molybdenum values were selected by IMA for rhenium analyses, using four acid digestion and mass spectrometry finish at ALS Chemex using the same sample pulps as were used for the initial analyses. IPL Labs of Richmond BC performed 33 rhenium check analyses, along with copper and molybdenum analyses, using pulp splits prepared by ALS Chemex. ALS Chemex, ACME Labs and IPL Labs are all separate corporate entities, independent of IMA, Moraga and Western Copper. For the analytical procedures used on the Island Copper Project in 2008, all three labs maintain ISO 9001:2008 certification, and ALS Chemex and ACME Labs also maintain ISO/IEC 17025:2005 certification.

The sample preparation, security and analytical procedures used by all laboratories were adequate for the core samples from the 2008 exploration program.

11.2.3 Hushamu and Red Dog – 2011

In 2011, after taking over the projects, NorthIsle started a comprehensive relogging campaign which led into a large re-sampling/re-assaying program. According to S. Casselman (2012), NorthIsle (and Western Copper) completed a relogging of 107 of the pre-2008 drillholes. This historic core had been in storage outdoors and many of the boxes were in poor condition. The process of re-logging first required careful re-establishing of core boxes labels by determining the hole numbers, core box numbers, footage block depth, sample numbers, sample starting and ending points. At all times during this process, the observations were corroborated and confirmed with the historical drill log geology and sample information. The re-labeled boxes were then organized and stacked in newly erected, covered, core racks in chronological in preparation for re-logging and sampling. If unable to ascertain sufficient information to conclusively identify a hole, box, or sample interval, these boxes were not included in the re-log and not sampled. Approximately 75.6% of the historical samples were deemed suitable for re-sampling, amounting to some 5,800 re-samples from EC-067 (1971) to EC-214 (1994). The re-logging involved logging observations of rock type, alteration and mineralization. Re-sample intervals were then laid out remaining true to the original sample intervals. A new, unique sample number was assigned. The core was then photographed. The re-sampling involved cutting the remaining half core with a core saw to collect a quarter sample. The re logging program provided an opportunity to apply consistent logging descriptions to the somewhat varied, and sometimes conflicting, historical observations.

11.2.4 Hushamu - 2012

NorthIsle conducted a drilling campaign starting in February 2012 at Hushamu. According to S. Casselman in the 2012 Updated Resource Report, drill core sample intervals were marked by the geologist and the holes were sampled in their entirety from top to bottom. A total of 2,146 samples were collected in 2012. The geologists recorded core logging information using a Microsoft Access based program called GeoSpark Logger created by GeoSpark Consulting Inc. The core was then cut in half using a core saw with one half remaining in the box, onsite and the other half sent to ALS Chemex for analysis. Every 20th sample of core was further quartered for “Duplicate Samples” with one quarter going to ALS Chemex, one quarter going to Acme Laboratories and half remaining in the box on the onsite. Each sample was placed in a poly ore sample bag with the uniquely numbered sample tag and secured with nylon zip tags. Sample bags were then placed in rice bags. Sample shipments were delivered by a NorthIsle representative to Van Kam Freightways Ltd, where they were palletized and shrink-wrapped for delivery to the appropriate lab in Vancouver. Conventional sample handling practices of the era were used on the property in work prior to Western Coppers’ work in 2007. No special security precautions were noted in the sampling, shipping, and analysis of the samples from the deposit.

A set of 4 sample standards and one blank were included with each of the sample shipments to Chemex and Acme. The standards were prepared and certified by WCM Minerals of Burnaby, BC.

At ALS Chemex, all samples were dried and weighed, then crushed to better than 70% minus < 2mm. An appropriate split (generally 250g) was then pulverized to >85% was <75um. Copper and molybdenum were analyzed by ALS Chemex process ME-OG62. This process involved a four-acid digestion and analysis by Inductively Coupled Plasma-Atomic Emission Spectroscopy (ICP-AES) with results reported in percent (%). Gold was analyzed by ALS Chemex process Au-AA25, which involved fire assay of a 30g sample of the pulp and an atomic absorption (AA) finish to a 0.01 ppm detection limit; results were reported in parts per million (ppm). Rhenium was analyzed by process Re-OG62, which involved four acid digestion and ICP-mass spectroscopy (ICP-MS) finish; results were reported in ppm.

For the duplicate sample checks sent to Acme Labs, the samples were crushed and pulverized, then analyzed by multi-element procedure 1EX. This process involved four acid digestion and ICP MS finish to capture 46 elements. Samples were analyzed for gold by fire assay and AA finish on a 30g sample, according to Acme procedure 3B. Copper and molybdenum were also assayed by four acid digestion and ICP-ES finish according to the Acme procedure 7TD.

11.2.5 Hushamu – 2014-2017

For 2014 and 2017 at Hushamu, as described by L. Tahija et al. in the 2021 NI43-101 PEA Technical Report, drill core sample intervals were marked directly on the core with lumber crayons after geotechnical and geological logging. Each 2014 sample was marked with an ALS Laboratories Ltd (“ALS”) paper sample tag and each 2017 sample was marked with a Bureau Veritas Mineral Laboratories (“BVL”) paper sample tag to be included in the sampling bag for analysis and a portion of the sample tag displaying the sample number, and the sample interval (From-To) was stapled into the wooden core box at the start of the interval. Once the sampling intervals had been selected by the geologist, they were moved to the cutting room where each length of core cut in half lengths using an electric diamond blade circular saw. A cut half core sample was then placed into a plastic sample bag, the paper sample tag placed in the bag and the sample ID written on the outside of the bag. Each sample bag was secured with a “zap” strap to prevent any material entering or exiting the bag. Individual samples were combined in a large rice bag and the top of the rice bag sealed with a “zap” strap and a numbered security tag. Several rice bags were then placed on a wooden pallet and wrapped with plastic sealing for shipment.

Suites of certified reference material (standards), blanks and duplicates were added into the core sample sequence every 20 samples. The reference material was 100g of either WCM Minerals CU181 or CU184 in 2014, and WCM CU184 in 2017. The blank material used was dolomite landscaping material. Duplicate samples were created by quartering one sample of half core onsite with both quarters sent directly to either ALS or BVL for duplicate analysis. The core samples were transported directly by bonded transport from NorthIsle’s core logging facility to ALS or BVL in Vancouver, B.C. for sample preparation and analysis. ALS is ISO 9001:2015 and BVL is ISO 9001:2008 accredited. The authors are not aware of any relationship between ALS or BVL and NorthIsle. On receipt of the samples in Vancouver, ALS and BVL confirmed the security numbers of the sacks received, the individual sample numbers and the integrity of each sample. No breaks in the chain of custody of the samples have been recorded.

Upon receipt by ALS, the 2014 core samples were dried, and then crushed to 70% passing through a 2mm sieve and split in a riffle splitter to obtain 250g. This 250 g was then pulverized to 85% passing through 75 microns. The pulverized samples were subjected to ALS’s multi-element package which includes Re (Code ME-MS41). This analysis is an aqua regia digestion followed by ICP-MS. A 30g sub sample of the pulps were analyzed for gold concentrations by fire assay with an atomic absorption finish (Code Au-AA23). The 57 samples from drillhole H-14-05 were analysed with ALS’s multi-element package ME-ICP61, which is a four-acid digestion.

Upon receipt by BVL, all 2017 core samples were dried, and then 1 kg crushed to 80% passing 10 mesh. A 250g split of the material was then pulverized until 85% passes 200mesh. The pulverized samples were treated to a 4 Acid Digestion (Code MA200) where a 0.25g split is heated in HNO₃-HClO₄-HF to fuming and taken to complete dryness. The residue was dissolved in HCl and solutions were then analyzed by ICP-MS for 45 elements, including copper, to low detection limits. For gold, a 50g split of the pulverized material was analyzed by fire assay fusion with atomic absorption finish (Code FA350-Au).

11.2.6 Red Dog - 2016

At Red Dog in 2016, according to the 2017 NI43-101 Technical Report by P. Burt and B. Game, the drill core sample intervals were marked directly on the core with lumber crayons after geological and geotechnical logging. Each sample is marked with a BVL paper sample tag to be included in the sampling bag for analysis and a portion of the sample tag displaying the sample number, and the sample interval (From-To) was stapled into the wooden core box at the start of the interval.

Once the sampling intervals have been selected by the geologist, they are moved to the cutting room where each length of core is cut in half lengths using an electric diamond blade circular saw. A cut half core sample was then placed into a plastic sample bag, the paper sample tag placed in the bag and the sample ID written on the outside of the bag. Each sample bag is secured with a “zap” strap to prevent any material entering or exiting the bag. Individual samples were combined in a large rice bag and the top of the rice bag sealed with a “zap” strap and a numbered security tag. Several rice bags are then placed on a wooden pallet and wrapped with plastic sealing for shipment.

Suites of certified reference material (standards), blanks and duplicates were added into the core sample sequence every 20 samples. The reference material was 100g of either WCM Minerals CU181 or CU184 and the blank material used was dolomite landscaping material. Duplicate samples were created by quartering one sample of half core on site with both quarters sent directly to BVL for field duplicate analysis.

The core samples were transported directly by bonded transport from NorthIsle’s core logging facility to BVL in Vancouver, B.C. for sample preparation and analysis. The authors are not aware of any relationship between BVL and NorthIsle.

On receipt of the samples in Vancouver, BVL confirmed the security numbers of the sacks received, the individual sample numbers and the integrity of each sample. No breaks in the chain of custody of the samples have been recorded. All core samples were dried, and then 1kg crushed to 80% passing 10 mesh. A 250g split of the material was then pulverized until 85% passes 200 mesh. The pulverized samples were treated to a 4 Acid Digestion (Code MA200) where a 0.25g split is heated in HNO₃-HClO₄-HF to fuming and taken to complete dryness. The residue was dissolved in HCl, and solutions were then analyzed by ICP-MS for 45 elements including copper to low detection limits. For gold, a 50g split of the pulverized material was analyzed by fire assay fusion with atomic absorption finish (Code FA350-Au).

Pulp duplicate sample were shipped by BVL to ALS for check-assaying. At ALS, a 0.25g split is treated to a 4 Acid Digestion (Code ME-MS61). The residue was dissolved in HCl and solutions were then analyzed by ICP-MS and ICP-AES for 48 elements to low detection limits. For copper, a prepared sample is digested with an acid mix (Code Cu-OG62) and the evaporated to incipient dryness. The residue was dissolved in HCl and solutions were then analyzed by ICP-AES. Total gold content in the samples was determined by subjecting a 50g split to fire assay and ICP-AES finish (Code Au-ICP22).

11.2.7 Hushamu and Red Dog – 2021-2022

The diamond drill core logging and sampling program was carried out under a rigorous quality assurance/quality control program using industry best practices. Drill core is typically HQ to from 100 m to 200 m and NQ thereafter to the end of each hole. After drilling, core was logged for lithology, alteration utilizing TerraSpec Halo© SWIR analyzer, observed mineralization, veining, structure, magnetic susceptibility and geotechnical characteristics utilizing Geospark© core logging software.

After logging was completed, the core was marked for sampling and waterproof assay tags were inserted in core boxes along with extra tags for field duplicates, standards or blanks, after which core was photographed on site. Drill core sample intervals were marked directly on the core with lumber crayons. Waterproof paper sample tags, with detachable portions, for adding to sample bags were stapled to the core box at the start of each sample interval. During core cutting a portion of each sample tag with sample number was detached by the core cutters and placed in each sample bag. At sample intervals where field duplicates were to be taken an extra tag was stapled to the core box and for that interval the core cutters would cut the sample into half so that a quarter core would be used for that interval. Likewise extra assay tags were added at intervals where certified standards, coarse or pulp blanks were to be added to the sample stream.

Once the sampling intervals, including those for certified standards, duplicates and blanks, have been selected by the geologist, they were moved to the cutting room where each length of core was cut in half using an electric diamond blade circular saw. The cut half core sample was then placed into a plastic sample bag, the waterproof paper sample tag placed in the bag and the sample number written on the outside of the bag. Each sample bag is secured with a “zap” strap to prevent any material entering or exiting the bag. Individual samples were combined in a large rice bag and the top of the rice bag sealed with a “zap” strap and a numbered security tag. Up to 19 rice bags are then placed in a supersack which were “zap” strapped closed and placed on a wooden pallet for shipment via Van-Kam shipping to the laboratory.

Prior to cutting core for assay, dry bulk density was also determined on site by taking 20 to 25 cm lengths of whole core of each lithology at 10 m intervals. The ends of these were then cut at right angle to the core axis, retaining all pieces to be returned to the core box for later sample cutting and analysis. The diameter of each core sampled for bulk density was measured at each end with digital calipers to 3 decimal places and recorded. The length of the core was measured on four sides at 90 degrees to each other, to 2 decimal places and recorded. The software averaged the lengths and diameters. The mass of the dry core was measured twice on an Ohaus® balance to 2 decimal places. If no discrepancy occurred, the measurement was recorded. If there was a discrepancy the measuring was repeated until no discrepancy between 2 measurements occurred. The density was calculated using the formula Bulk Density = π times r^2 times h (where r is radius of core and h is length of core). Certified standard masses are used to calibrate the scale balance used for bulk density determinations. The balance in the core logging area was levelled on a large concrete block to avoid vibration, was leveled, and surrounded by a wooden partition to avoid wind affecting the balance. The measurements were recorded in Geospark® logging software and bulk density calculated to 2 decimal places.

A total of 5% assay standards or blanks and 5% core duplicates are included in the sample stream as a quality control measure and are reviewed after analyses are received. Blanks were obtained from unmineralized coarse bagged limestone landscaping rock. Certified reference materials were inserted as part of the QA/QC protocols. For each group of thirty samples: a blank (either coarse or CRM pulp) was inserted as the 10th sample and the 20th sample was a non-blank CRM (the grade of the CRM was up to the logging geologist), the 30th sample was a duplicate.

Standards for each of the above years were obtained from WCM Minerals, Vancouver, CDN Minerals, Langley and OREAS, Canada. Blanks were obtained from unmineralized coarse bagged limestone landscaping rock.

All Hushamu 2021-2022 and Red Dog 2021 samples were sent to the Bureau Veritas Commodities Canada Ltd. ("BV Labs") in Vancouver, BC where the samples were dried, then crushed, split and a 250 g split was pulverized to 85% passing 200 mesh size pulps. Clean crush material was passed through the crusher and clean silica was pulverized between each sample. The pulps were analyzed for gold by fire assay fusion of 50 g of the 250 g split. Total gold content was determined by digesting the silver doré bead from the fusion and then analyzing by ICP/ES (Bureau Veritas Code FA350-Au). All samples were also analyzed for multiple elements by taking a 0.25 g of the 250g split which was heated in HNO₃, HClO₄ and HF to fuming and taken to dryness. The residue was dissolved in HCl and then analyzed utilizing ICP-ES/MA (Bureau Veritas Code MA200). BV Labs is an independent, international ISO/IEC 17025:2005 accredited laboratory.

Due to significant back log at Bureau Veritas Labs, all Hushamu 2022 samples were sent to SGS Natural Resources Laboratory ("SGS") in Burnaby, BC where the samples were dried, then crushed to 75% passing 2 mm, then a 250 g split was pulverized to 85% passing 200 mesh size (75microns) pulps. Clean crushed material was passed through the crusher and clean silica was pulverized between each sample. The pulps were analyzed for gold by fire assay fusion of 50 g of the 250 g split. Total gold content was determined by digesting the silver doré bead from the fusion and then analyzing by ICP/AES (SGS Code GE_FA151V5).

All 2022 Hushamu samples were also analyzed at SGS for 49 additional elements by taking a 0.25 g of the 250g split which was heated in HNO₃, HClO₄ and HF to fuming and taken to dryness. The residue was dissolved in HCl and then analyzed utilizing ICP-AES/ICP-MS (combining SGS Code GE_ICP40Q12 and GE_IMS40Q12). Some samples were also additionally analyzed more precisely for Rhenium and Germanium (SGS Code-GE_IMS90A50-C). SGS is an independent, international ISO/IEC 17025:2005 accredited laboratory. The analytical results were verified with the application of industry standard Quality Control ("QA/QC") procedures.

Pulps and rejects of holes with significant assay intervals are stored at Western Mineral Storage Inc. in Aldergrove, BC. The remaining split core is indexed and stored at NorthIsle's logging and office facility in Port Hardy, BC.

11.3 Northwest Expo 2021-2023

All procedures and methods described for Hushamu and Red Dog under 11.2.7 apply for the drilling at Northwest Expo for the years 2021-2023. In 2023, however, all Northwest Expo samples were sent to MSALABS in Langley, BC, where the samples were dried, then crushed, split and a 250g split was pulverized to 85% passing -200 mesh (-75 micrometres (µm)) size pulps. Clean crush material was passed through the crusher and clean silica was pulverized between each sample. The pulps were analyzed for gold by fire assay fusion of 50 g of the 250 g split. Total gold content was determined by digesting the silver doré bead from the fusion and then analysing by AA (MSA Code FAS-121). All samples were also analyzed for multiple elements by taking a 0.25g of the 250g split which was heated in HNO₃, HClO₄ and HF to fuming and taken to dryness. The residue was dissolved in HCl and then analyzed utilizing ICP-MS (MSA Code IMS-230).

Any sulphur analysis from this latter analysis with a value greater than 10% was reanalyzed utilizing a Leco sulphur analyzer. Iron and Tungsten accelerators are added to the sample and a stream of oxygen is passed over the sample in the induction furnace. As the sample is heated, sulphur dioxide released

from the sample is measured by an IR detection system and the Total Sulphur content is determined. (MSA Code SPM-210). MSALABS (Langley) is an independent, international ISO/IEC 17025:2005 accredited laboratory.

11.4 QA/QC Analysis - Hushamu and Red Dog

Various technical reports have detailed the individual QA/QC performance at Hushamu and Red Dog for certain years (for example the PEA of 2021 by L. Tahija et al. quoted or summarized the 2012 and 2014 Hushamu and the 2016 Red Dog drill data). For this report, MMTS reviewed and interpreted all available QA/QC data to date as contained in the project's database, combining them into multi-year graphs that cover the most recent drilling campaigns 2005-2022. Not only various blank materials and different CRMs but also multiple labs and analysis methods were used over the years, which predictably resulted in shifts of whole data populations and failure thresholds, for example in the blank plots of chapter 11.4.1.

The total number of assays and QA/QC samples including samples identified as Certified Reference Materials (CRM or STD), blanks, field duplicates and check-assays in the provided database is given in Table 11-1. It shows that the percentage of QA/QC samples for all considered years is 14%, which is acceptable. The year in which the QA/QC is counted is by year of analysis, not drilling, particularly important for the comprehensive re-sampling program of 2011 (*). QA/QC for historical sampling and assaying, if any, was not available at the time of this report. Available lab-internal QA/QC data from 2005 to 2023 has not been reviewed.

The QA/QC sampling for the two deposits meets industry standards. QA/QC data and interpretation for gold (Au), copper (Cu), molybdenum (Mo), and rhenium (Re) are presented in Table 11-1.

Table 11-1 QA/QC Sample Summary for Hushamu and Red Dog – (2005-2023)

Year	Core samples	Blanks	CRMs	Duplicates	Check-assays	QA/QC all	% QA/QC
2005	345	18	11	0	18	47	13.6%
2008	250	6	6	8	0	20	8.0%
2011	5,836	164	143	0	317	624	10.7%
2012	2,146	117	116	117	99	449	20.9%
2014	592	33	32	32	0	97	16.4%
2016	481	22	26	25	36	109	22.7%
2017	606	37	28	30	0	95	15.7%
2021	1,288	68	77	56	0	201	15.6%
2022	1,175	56	45	43	0	144	12.3%
Total	12,719	521	484	311	470	1,786	14.0%

11.5 Blanks – Hushamu and Red Dog

Quatsino limestone was used in 2005, while in 2008, field blank material was obtained from a barren limestone quarry located outside of the project area. A 250kg batch of that crushed material (roughly -2 cm fraction) was selected from a landscaping supplier in Pitt Meadows, B.C. Initially, 60 samples (approximately 0.5kg each) were analyzed to determine the sterility and homogeneity before shipment to the project area. The geochemical trace element values for Au and Mo were considered uniform and

at the acceptable levels, near and below the laboratories' detection limits. This limestone was used consistently between 2008 and 2017.

In 2021 and 2022, NorthIsle switched to a set of three different blanks, two homogenized granite powders, certified and purchased from CDN in Langley, BC (CDN-BL-10P and CDN-BL-10), and a coarse blank comparable to the limestone blanks used previously. CDN-BL-10 also appears to have been used a few times in late 2017.

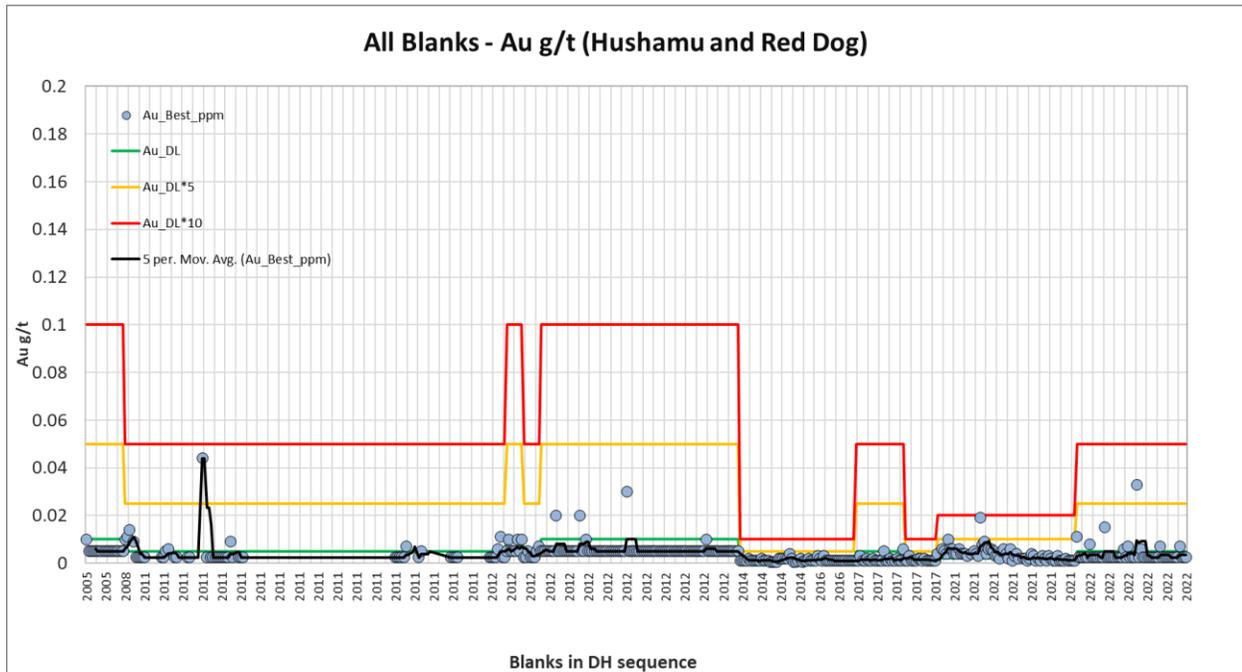
Table 11-2 details the blind blank insertion count by year and the insertion rate relative to core sampling. In 2008 and during the re-sampling efforts of 2011, the blank insertion rate has been below the recommended 5%, pulling the average for the 9 years of drilling and re-sampling down to 4.1%.

Table 11-2 Blanks by Year for Hushamu and Red Dog (2005 - 2023)

Blank name	2005	2008	2011*	2012	2014	2016	2017	2021	2022
Blank	0	6	164	117	33	22	31	0	0
Blank_2005	18	0	0	0	0	0	0	0	0
CDN-BL-10	0	0	0	0	0	0	6	7	0
CDN-BL-10P	0	0	0	0	0	0	0	31	42
CoarseBLNK	0	0	0	0	0	0	0	30	14
Total	18	6	164	117	33	22	37	68	56
Core samples	345	250	5,836	2,146	592	481	606	1,288	1,175
Insertion rate %	5.2%	2.4%	2.8%	5.5%	5.6%	4.6%	6.1%	5.3%	4.8%

*2011 re-sampling campaign of historical core

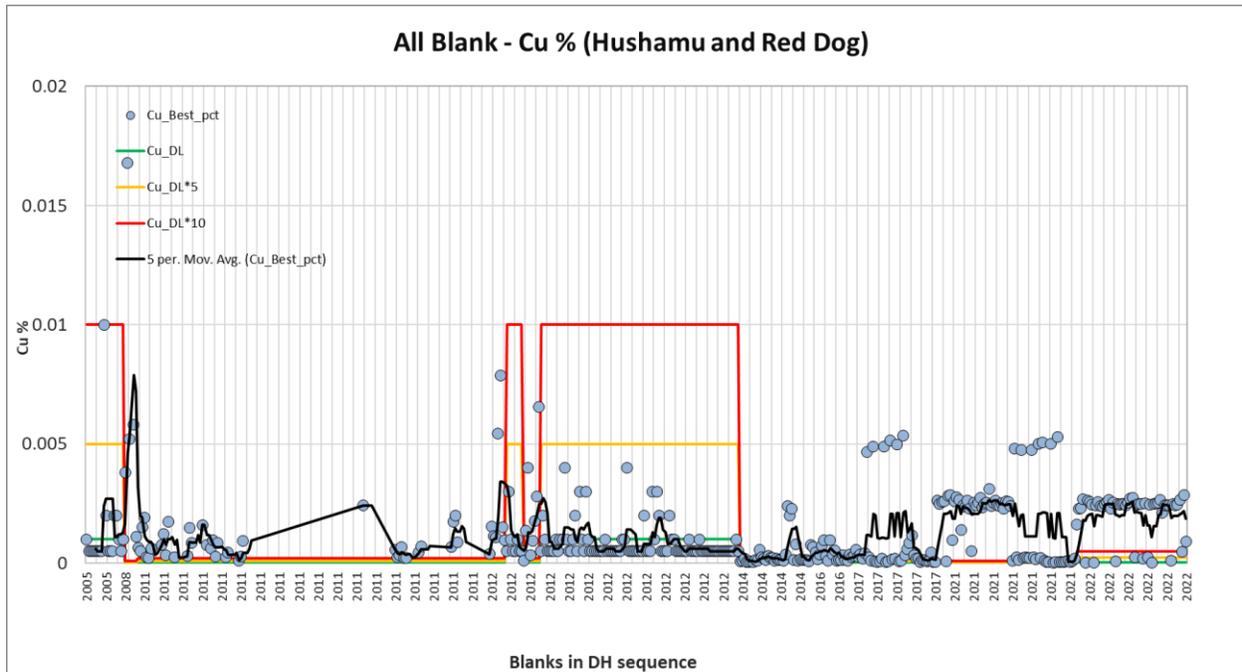
Figure 11-1 shows that of the 521 total blanks inserted into sample streams between 2005 and 2022, 393 were analyzed for Au without a single failure ($>10 \times \text{DL}$) and with only 4 warnings ($>5 \times \text{DL}$), demonstrating that cross-sample contamination during preparation at ALS, BV, and SGS is not a concern in NorthIsle's current database.



(Source: MMTS, 2024)

Figure 11-1 2005-2022 Blanks Performance for Hushamu and Red Dog, Au

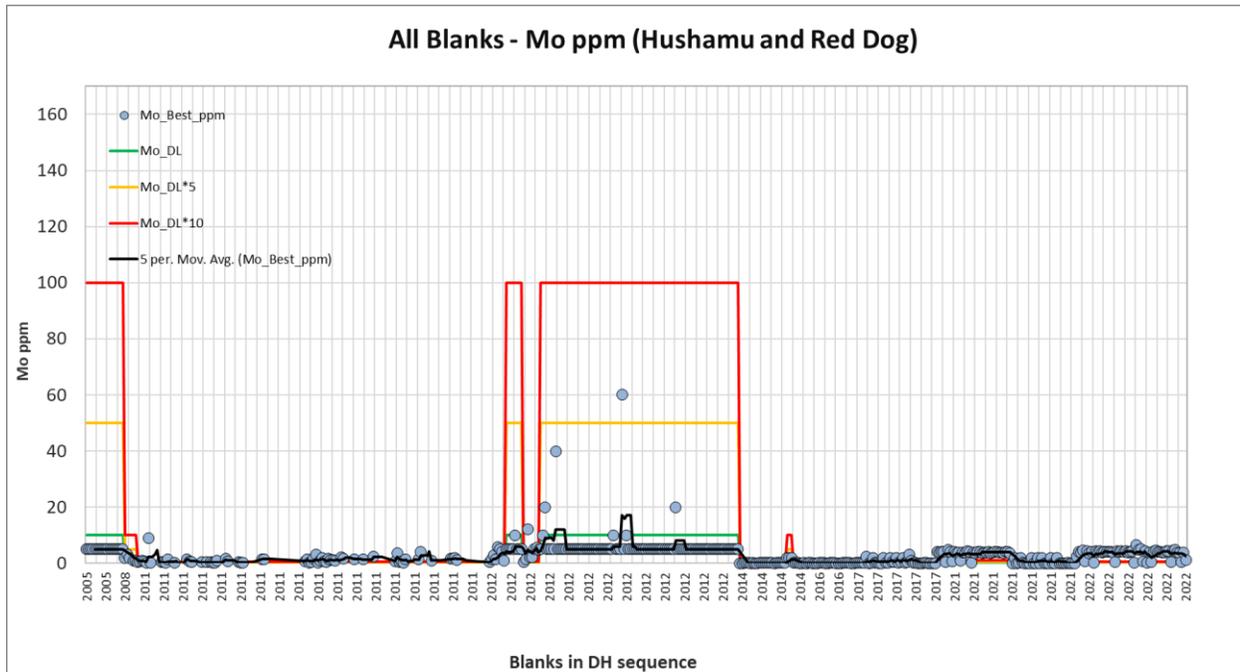
Figure 11-2 graphs all blank Cu results for the same time frame. In contrast to Au, several assays exceed the 10*DL failure threshold; however, except for some single and overall insignificant outliers in 2005, 2008, and 2012, these results are caused by natural background Cu concentrations of the blank material used at the time and not by contamination. More specifically, groups of CDN-BL-10 (approx. 50ppm Cu background) and CDN-BL-10P (approx. 25ppm) utilized in 2017, 2021, and 2022 plot consistently above the 10*DL. The highest failure was 168ppm in blank H987121 of 2008.



(Source: MMTS, 2024)

Figure 11-2 2005-2022 Blanks Performance for Hushamu and Red Dog, Cu

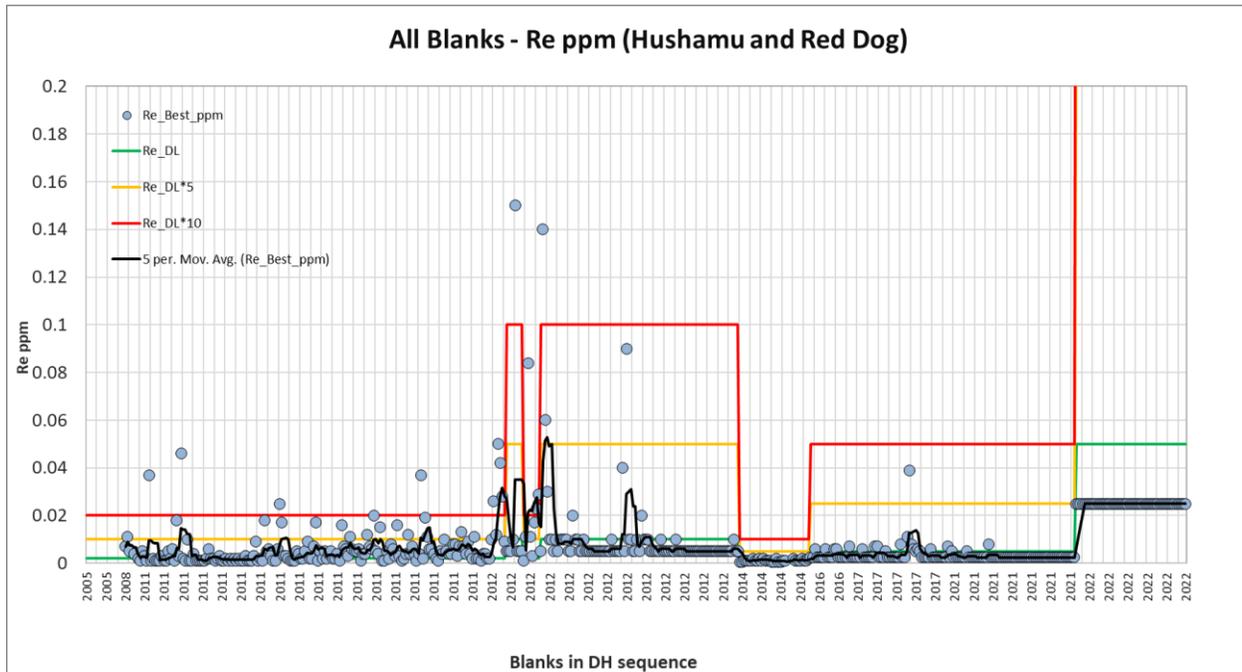
Figure 11-3 illustrates that contamination was not a concern with regards to Mo, as a single meaningful failure in 2012 (blank N233205 at 60ppm) did not follow a high-grade interval and remains unexplained. As was mentioned with Cu, CDN-BL-10 and CDN-BL-10P contain noticeable background amounts of Mo at ca. 4ppm and 2ppm, respectively, which resulted in the 2017-2022 blank data to plot well above the 10*DL failure line. As for the re-sampling data of 2011, S. Casselman and G. Giroux (2012) stated that smear charts did not show evidence for contamination, however it needs to be noted that the limestone blank used in that campaign consistently reports Mo (and Re) above the detection limit of 0.05ppm.



(Source: MMTS, 2024)

Figure 11-3 2005-2022 Blanks Performance for Hushamu and Red Dog, Mo

Figure 11-4 shows that during the re-sampling campaign of 2011 and the start of the drilling program 2012, systematic cross-sample contamination happened for Rhenium, albeit at very low concentrations and only made reportable by the very low detection limits of ALS's ME-MS61 method at 0.002ppm Re. A review of the two strongest failures at 0.15ppm and 0.14ppm, respectively, in 2012 confirmed that blank N232465 at 0.14ppm Re is preceded by a high-grade interval sample, yet neither Au nor Mo shows the same contamination signal. Blank N232365 (0.15ppm Re) does not directly follow a higher-grade interval.



(Source: MMTS, 2024)

Figure 11-4 2005-2022 Blanks Performance for Hushamu and Red Dog, Re

The QP concludes the results are acceptable because of the insignificant impact the weak contamination has on each following sample in a Cu porphyry system with reasonably consistent grades over long drillhole intervals and therefore on the resource model.

11.5.1 Certified Reference Materials – Hushamu and Red Dog

As per Table 11-3, a total of 14 different certified reference materials (CRM or STD) have been utilized from 2005 to 2022 to control the accuracy of reported assay results. The CRMs are generally suitable for the expected ranges of Au, Cu, and Mo in the mineralized rocks drilled, sampled, and analyzed but several standards were purchased that are not certified for Au (CDN-CM-32 and CDN-CM-33) or Mo (CDN-CM-42). None of the standards were certified for Rhenium.

Table 11-3 Certified Reference Materials Detail for Hushamu and Red Dog

Provider	Name	Au EV g/t	Au 2SD	Cu EV %	Cu 2SD	Mo EV ppm	Mo 2SD	Ag EV g/t	Ag 2SD
WCM	PM403	0.1672	0.0145	n/a	n/a	n/a	n/a	n/a	n/a
WCM	CU116	n/a	n/a	0.473	0.0167	230	13	43.6	2.66
WCM	CU132	0.17	0.014	0.168	0.0124	460	36	27.3	1.29
WCM	CU171	0.22	0.029	0.188	0.008	307	20	14.39	1.32
WCM	CU172	0.26	0.028	0.214	0.008	1045	56	23.81	1.74
WCM	CU173	0.93	0.055	0.347	0.011	183	24	12.33	1.24
WCM	CU181	0.59	0.06	0.59	0.04	835	52	28	2.65
WCM	CU184	0.195	0.015	0.192	0.008	400	40	n/a	n/a
WCM	CU185	0.62	0.04	0.398	0.018	354	38	14.6	1.25
WCM	CU188	0.4	0.04	0.179	0.014	177	18	14.8	1.57
WCM	CU190	0.68	0.056	0.65	0.0376	323	26	9.4	1.56
CDN	CDN-CM-32	n/a	n/a	0.234	0.01	230	20	1.4	0.3
CDN	CDN-CM-33	n/a	n/a	0.346	0.014	250	20	2.3	0.3
CDN	CDN-CM-42	0.576	0.05	0.526	0.022	n/a	n/a	n/a	n/a

Table 11-4 lists all blindly inserted CRMs and their insertion count and rate relative to core samples taken by year. All CRMs were purchased from either WCM Minerals in Burnaby, BC, or CDN Resource Labs in Langley, BC. Between 2 and 4 different CRMs were used each year of drilling (or re-sampling in 2011) at appropriate frequencies of approx. 1 in 20 samples, resulting in an insertion rate of 3.9% overall. This is slightly below the industry standard target of 5%.

Table 11-4 CRMs Count and Insertion Rate by Year 2005-2022 for Hushamu and Red Dog

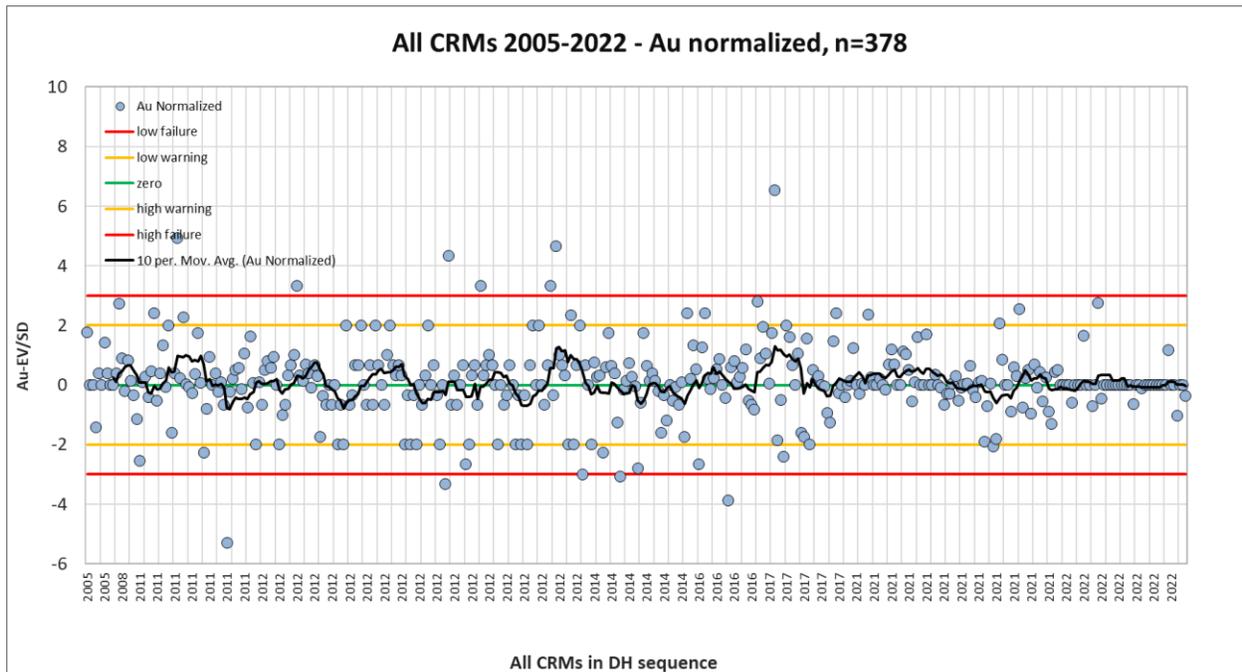
CRM name	2005	2008	2011	2012	2014	2016	2017	2021	2022
WCM_PM403	4	0	0	0	0	0	0	0	0
WCM_CU116	4	0	0	0	0	0	0	0	0
WCM_CU132	3	0	0	0	0	0	0	0	0
WCM_CU171	0	4	0	0	0	0	0	0	0
WCM_CU172	0	1	37	0	0	0	0	0	0
WCM_CU173	0	1	38	0	0	0	0	0	0
WCM_CU181	0	0	34	56	16	13	0	9	0
WCM_CU184	0	0	34	60	16	13	17	0	0
WCM_CU185	0	0	0	0	0	0	11	0	0
WCM_CU188	0	0	0	0	0	0	0	42	2
WCM_CU190	0	0	0	0	0	0	0	9	0
CDN-CM-32	0	0	0	0	0	0	0	10	20
CDN-CM-33	0	0	0	0	0	0	0	3	14
CDN-CM-42	0	0	0	0	0	0	0	4	9
Total	11	6	143	116	32	26	28	77	45
Core samples	345	250	5,836	2,146	592	481	606	1,288	1,175
Insertion rate %	3.2%	2.4%	2.5%	5.4%	5.4%	5.4%	4.6%	6.0%	3.8%

The Au, Cu, and Mo CRM data was normalized (result-EV/SD) to graph each element with all results over time. Table 11-5 illustrates defensible accuracy in Au assays with 4 low failures and 7 high failures for a

combined failure rate of 2.9%. The results appear free of significant bias or trend. As per Table 11-5, by far the poorest performing standard is WCM CU184 who was inserted 140 times, analyzed for Au 121 times and failed to record the CRM expected value +/-3SD 9 times for a failure rate of 7.4%.

Table 11-5 CRM Performance Details for Hushamu and Red Dog - Au

CRM	Year used	Count	EV Au (g/t)	AVG Au (g/t)	% Error	Low Fail	High Fail	% Fail
WCM_PM403	2005	4	0.167	0.173	3.1%	0	0	0.0%
WCM_CU116	2005	4	n/a	n/a	n/a	n/a	n/a	n/a
WCM_CU132	2005	3	0.170	0.170	0.0%	0	0	0.0%
WCM_CU171	2008	4	0.220	0.226	2.4%	0	0	n/a
WCM_CU172	2008-2011	4	0.260	0.262	0.9%	0	0	n/a
WCM_CU173	2008-2011	7	0.930	0.949	2.0%	0	0	n/a
WCM_CU181	2011-2021	111	0.590	0.593	0.5%	1	1	1.8%
WCM_CU184	2011-2017	121	0.195	0.195	0.0%	3	6	7.4%
WCM_CU185	2017	10	0.620	0.632	1.9%	0	0	0.0%
WCM_CU188	2021-2022	44	0.400	0.404	0.9%	0	0	0.0%
WCM_CU190	2021	9	0.680	0.668	-1.8%	0	0	0.0%
CDN-CM-32	2021-2022	29	n/a	n/a	n/a	n/a	n/a	n/a
CDN-CM-33	2021-2022	15	n/a	n/a	n/a	n/a	n/a	n/a
CDN-CM-42	2021-2022	13	0.576	0.588	2.0%	0	0	0.0%
Total	2005-2023	378				4	7	2.9%



(Source: MMTS, 2024)

Figure 11-5 Normalized Process Control Chart for Hushamu and Red Dog, Au

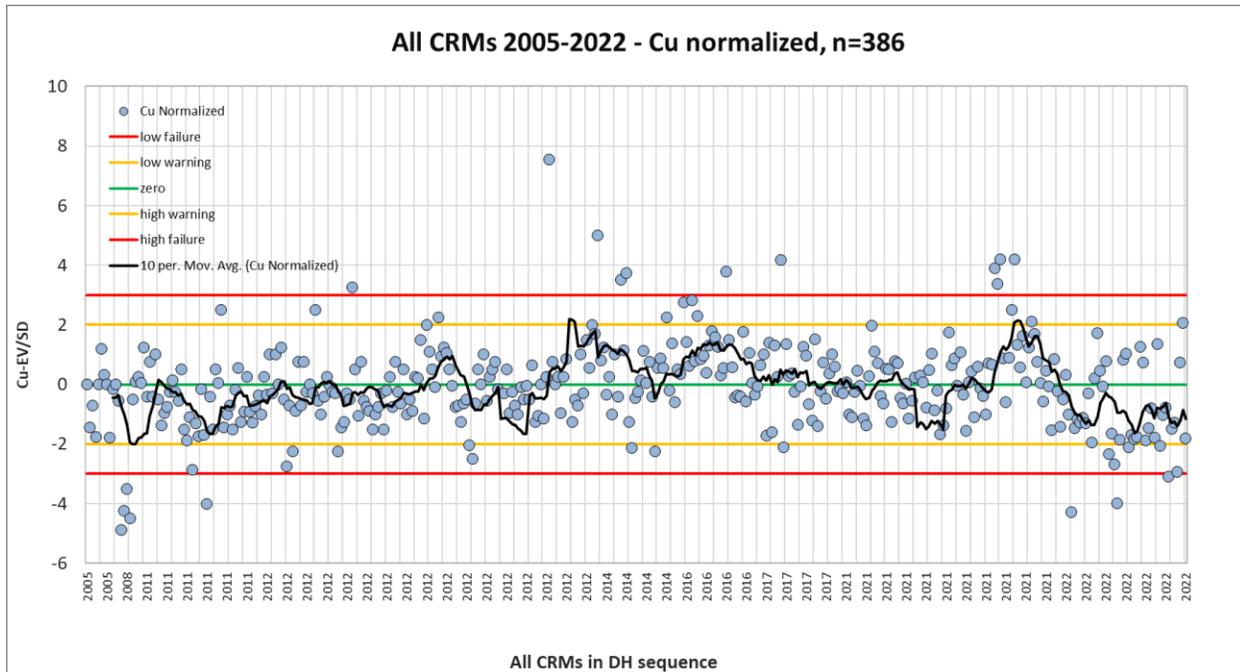
The current Hushamu and Red Dog database contains 386 Cu assay results for 484 inserted standards. Table 11-6 illustrates the variation in total count of analysis. Very poor performances by WCM_CU171 and WCM_CU172 in terms of failure rate and % error can potentially be attributed to the very low count

for those CRMs. As in Table 11-5, the highest failure rate was recorded by WCM_CU184. An average failure rate of 5.7% is very high (see discussion below)

Table 11-6 CRM Performance Details for Hushamu and Red Dog - Cu

CRM	Year used	Count	EV Cu %	AVG Cu %	% Error	Low Fail	High Fail	% Fail
WCM_PM403	2005	4	n/a	n/a	n/a	n/a	n/a	n/a
WCM_CU116	2005	4	0.473	0.467	-1.2%	0	0	n/a
WCM_CU132	2005	3	0.168	0.165	-2.0%	0	0	0.0%
WCM_CU171	2008	4	0.188	0.175	-7.7%	3	0	75.0%
WCM_CU172	2008-2011	5	0.214	0.208	-3.0%	1	0	20.0%
WCM_CU173	2008-2011	8	0.347	0.344	-0.9%	0	0	0.0%
WCM_CU181	2011-2021	112	0.590	0.586	-0.6%	0	1	0.9%
WCM_CU184	2011-2017	122	0.192	0.193	0.7%	2	7	7.4%
WCM_CU185	2017	11	0.398	0.397	-0.2%	0	0	0.0%
WCM_CU188	2021-2022	44	0.179	0.179	0.1%	1	1	4.5%
WCM_CU190	2021	9	0.650	0.684	5.0%	0	3	33.3%
CDN-CM-32	2021-2022	31	0.234	0.230	-1.7%	1	0	3.2%
CDN-CM-33	2021-2022	16	0.346	0.343	-0.9%	0	0	0.0%
CDN-CM-42	2021-2022	13	0.526	0.512	-2.8%	2	0	15.4%
Total	2005-2023	386				10	12	5.7%

Figure 11-6 shows acceptable accuracy for Cu, with 10 low and 12 high failures for an overall failure rate of 5.7%. Several of the failures are far outliers outside of the shown y-axis limits on the process control chart and could be the results of mislabelling in the database. A review of said outliers, however, was inconclusive. Small groups of outliers in 2008 and 2021 should have triggered an internal review and potential re-assaying at the respective laboratory. MMTS is not aware of any rerun certificates for these failures. The Bureau Veritas Cu results of 2016 at Red Dog are moderately biased high by approx. 1 SD. The 2022 results, starting with CRMs inserted into the stream of drillhole HU22-03, demonstrate a trend to either moderately high or moderately low Cu assays, with an overall low bias. A review of the performance of the 4 CRMs used that year indicated that this trend was not caused by one single STD over- or under performing.



(Source: MMTS, 2024)

Figure 11-6 Normalized Process Control Chart for Hushamu and Red Dog, Cu

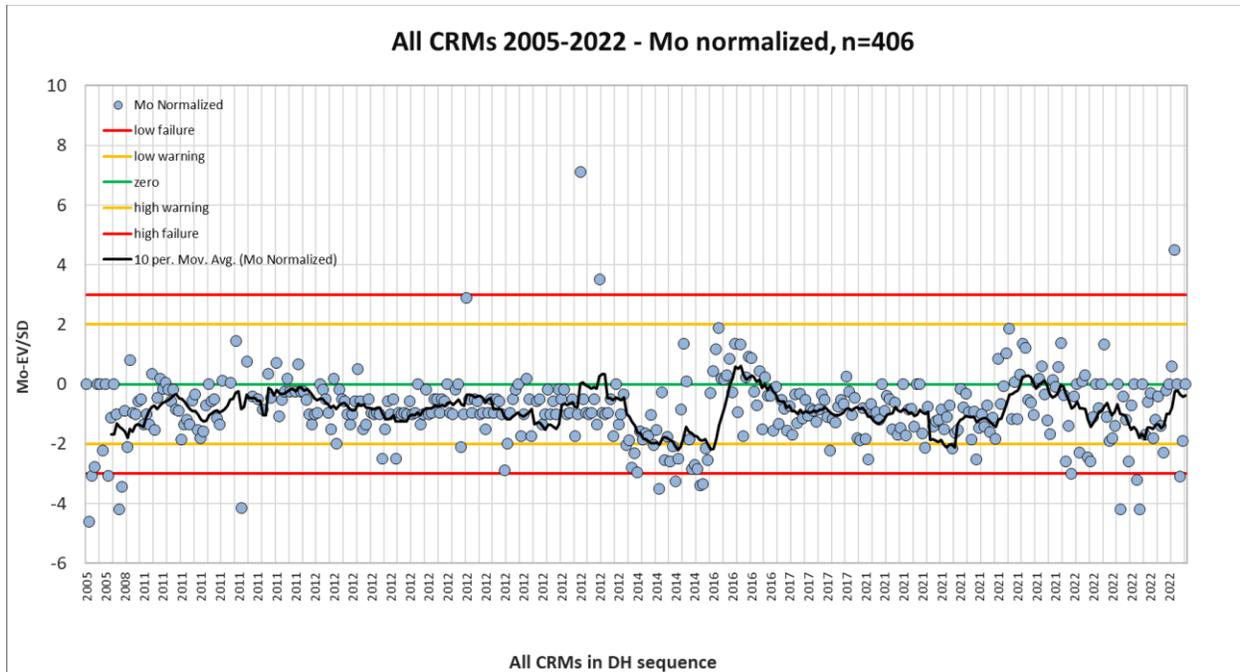
The % Error column in Table 11-7 proves a Mo underperformance for all standards used during Hushamu and Red Dog drilling between 2005 and 2022, generally irrespective of laboratory or method, highlighted by a relatively large count of low failures at 16 of 406 (3.9%).

Table 11-7 CRM Performance Details Mo

CRM	Year used	Count	EV Mo ppm	AVG Mo ppm	% Error	Low Fail	High Fail	% Fail
WCM_PM403	2005	4	n/a	n/a	n/a	n/a	n/a	n/a
WCM_CU116	2005	4	230	213	-8.2%	3	0	75.0%
WCM_CU132	2005	3	460	423	-8.7%	0	0	0.0%
WCM_CU171	2008	4	307	291	-5.5%	1	0	25.0%
WCM_CU172	2008-2011	9	1045	949	-10.1%	1	0	11.1%
WCM_CU173	2008-2011	10	183	180	-1.6%	0	0	0.0%
WCM_CU181	2011-2021	119	835	796	-4.8%	1	1	1.7%
WCM_CU184	2011-2017	129	400	382	-4.8%	5	1	4.7%
WCM_CU185	2017	11	354	336	-5.4%	0	0	0.0%
WCM_CU188	2021-2022	44	177	168	-5.4%	1	0	2.3%
WCM_CU190	2021	9	323	320	-0.9%	0	0	0.0%
CDN-CM-32	2021-2022	31	230	215	-7.2%	3	0	9.7%
CDN-CM-33	2021-2022	16	250	241	-3.6%	1	1	12.5%
CDN-CM-42	2021-2022	13	n/a	n/a	n/a	n/a	n/a	n/a
Total	2005-2023	406				16	3	4.7%

Except for 2016 and 2021, all Mo in Figure 11-7 results display a weak to moderate low bias of 0.9SD, accentuated by a significantly low bias of approx. 2SD in 2014 when NorthIsle had requested ALS's ME-

MS41 aqua regia method for drilling at Hushamu. 11 high-grade Mo STDs of 2011 (WCM_CU171 and WCM_CU182) inserted into the re-sampling stream of historical drillholes EC-172 to EC-199 of were not analyzed past the initial 500ppm upper reporting limit and were excluded from the plot and table.



(Source: MMTS, 2024)

Figure 11-7 Normalized Process Control Chart for Hushamu and Red Dog, Mo

the QP views the available QA/QC information regarding accuracy control as acceptable for Au and Cu. Mo was found to be consistently underperforming which is not a concern since it is likely to make that part of the resource more conservative. Re as a potential by-product was not controlled for accuracy.

No control chart could be generated for Rhenium because none of the used standards have certified Re concentrations.

11.5.2 Duplicates for Hushamu and Red Dog

The current assay database for Hushamu and Red Dog contains 186 field duplicate samples which were all taken between 2014 and 2022. Based on the almost 4,000 core intervals samples during these years, this results in a rate of 4.7%.

In 2008, there are no field duplicates, but 53 coarse crush duplicates were selected.

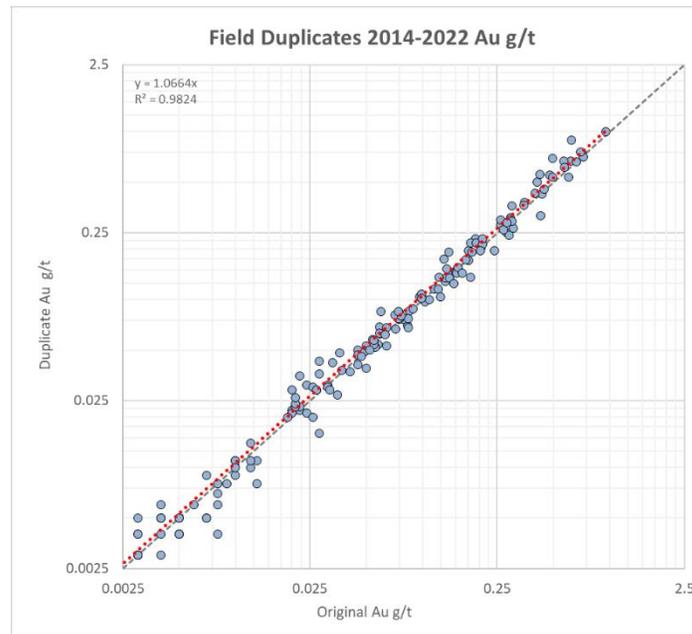
For the re-sampling campaign in 2011, quarter core samples were cut from the remaining historical half core, which did not allow for field duplicate sampling without using up the reference quarter core which was to remain in the box.

In 2012, 'check-core' samples were taken at regular intervals, meaning that one quarter core was analyzed by the primary lab (ALS Chemex) along and in sequence with the regular half-core samples,

while the other quarter core sample was directly sent to ACME. As such, the data represents a mix of a field duplicate and a check-assay though the sample prep was completed at secondary facilities.

11.5.2.1 Field Duplicates for Hushamu and Red Dog

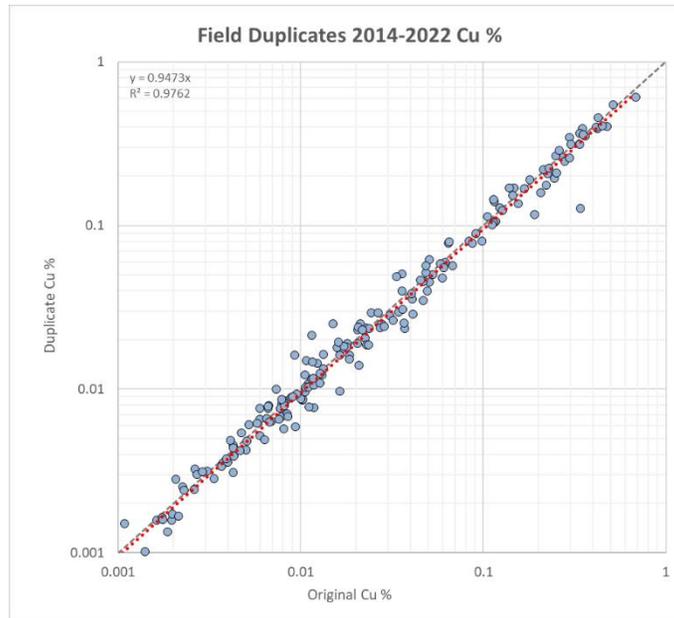
Figure 11-8 graphs the Au assays of the field original and duplicate pairs 2014-2022. The correlation between the two sets of data is very good with an R^2 at 0.98. The higher-grade samples between 0.4g/t and 1g/t Au display a weak duplicate-positive bias.



(Source: MMTS, 2024)

Figure 11-8 Field Duplicate Scatter Plot 2014-2022 for Hushamu and Red Dog, Au

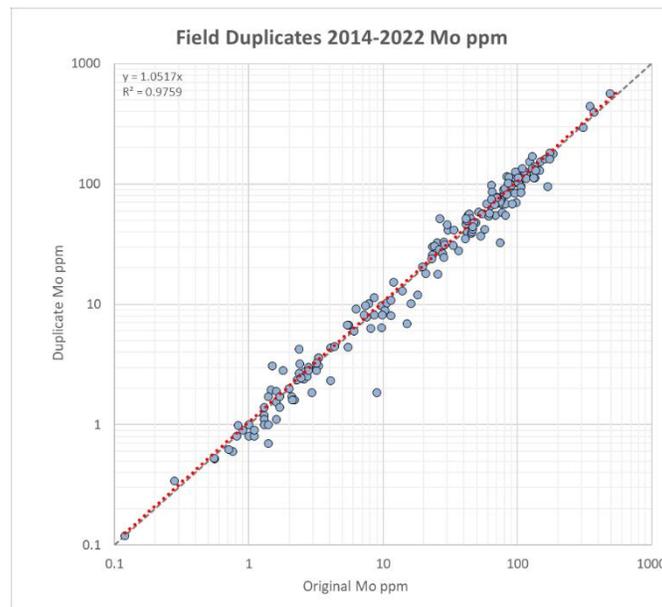
Figure 11-9 demonstrates very good repeatability in Cu, with only one single poor pair at 0.34% and 0.127%, respectively. The R^2 is 0.98 and the trendline slope at 0.95x is weakly original-positive because of the one outlier mentioned.



(Source: MMTS, 2024)

Figure 11-9 Field Duplicate Scatter Plot 2014-2022 for Hushamu and Red Dog, Cu

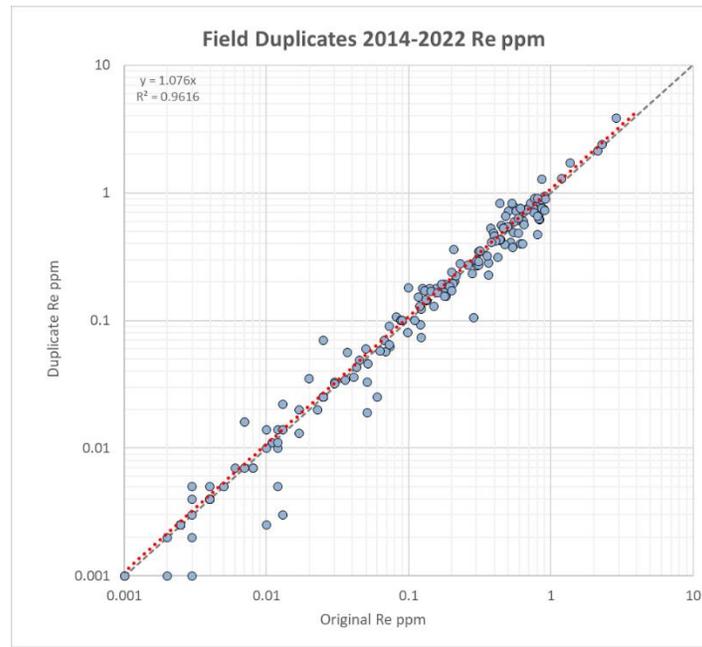
Molybdenum data pairs also show very good reproducibility with an R^2 approaching 0.98 in Figure 11-10. In comparison to Au and Cu, the distribution along the 1-1 line is less homogenous, with most of the data points plotting between 20ppm and 200ppm. The very high-grade material at Hushamu and Red Dog is therefore rather poorly represented.



(Source: MMTS, 2024)

Figure 11-10 Field Duplicate Scatter Plot 2014-2022 for Hushamu and Red Dog, Mo

Predictably, repeatability expressed by R^2 and grade distribution of the Re field duplicate pairs mirror those of Mo. Figure 11-11 also indicates a small bias towards the duplicates dataset but that result appears strongly influenced by the highest-grade sample pair in the plotted population being slightly duplicate-positive (3.86ppm to 2.89ppm). Overall, the results are very good.



(Source: MMTS, 2024)

Figure 11-11 Field Duplicate Scatter Plot 2014-2022 for Hushamu and Red Dog, Re

11.5.2.2 Coarse Duplicates for Hushamu and Red Dog - 2008

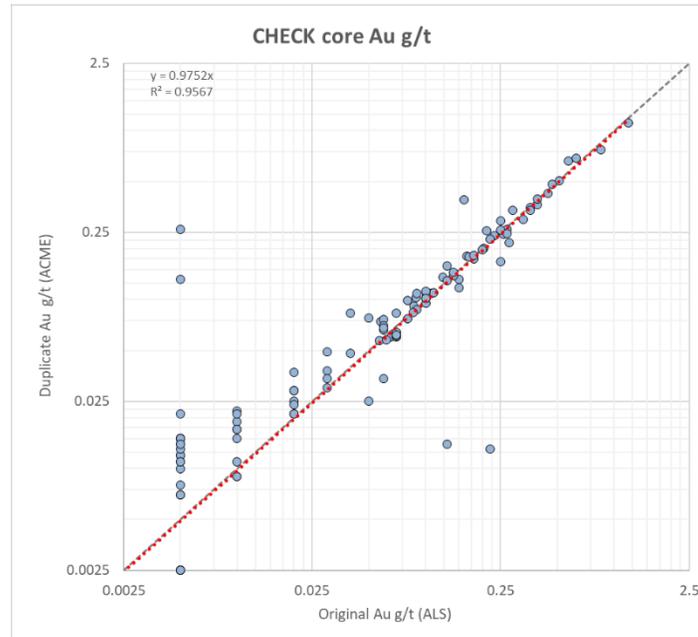
According to A. Burgert and J. Houle (2011), the purpose of coarse reject duplicates is to test for the homogeneity of copper, gold and molybdenum grade within the -10mesh crush material (2mm fraction) and the splitting technique used by the laboratory. IMA's Quality Control program required the coarse reject of the entire remaining sample to be homogenized again and split down to 250g then pulverized into a pulp sample "b". This pulp would then be analyzed by the lab and compared with the original sample (sample "a" pulp). Coarse reject duplicates have been run routinely on all sample batches for every 40th sample.

The 2011 Technical Report on the Island Copper Property by A. Burgert and J. Houle reports on all available 53 coarse crush sample pairs (this number includes samples taken at the Northwest Expo deposit nearby) and confirms very good correlations for Au, Cu, and Mo. The relevant data was not available in the current version of the Hushamu-Red Dog database and could not be reviewed by the QP.

11.5.2.3 Check-Core Duplicates for Hushamu and Red Dog - 2012

S. Casselman and G. Giroux (2012) described and reviewed the 2012 QA/QC including the quartered core duplicates based on work completed by H. Brown of NorthIsle, using Min/Max plots that showed overall acceptable correlations. MMTS's review of this data as provided in the latest iteration of the project's assay database confirms very good correlations for all 4 elements despite the data plotting noticeably different from what was presented in 2012.

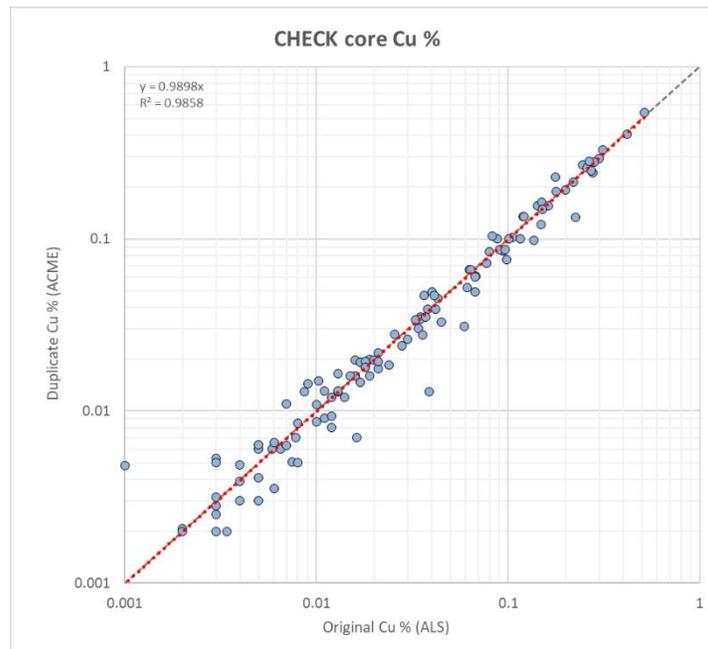
Figure 11-12 graphs Au assay results from ALS and ACME for two quarter cores taken from the same sample intervals of drillholes H-12-01 through to H-12-18, resulting in 116 pairs total for 2012. The correlation is very good despite some noticeable outliers on either side of the 1-1 line, the symmetry of which implies incorrect sample pairing, probably in 2012 during sampling. Also of note is that data <0.05g/t displays a strong bias towards the ACME results. the QP views the results as acceptable because the bias at very low grades is unlikely to significantly influence the resource model.



(Source: MMTS, 2024)

Figure 11-12 Core check Scatter Plot 2012 for Hushamu and Red Dog, Au

Figure 11-13 demonstrates very good correlation between ACME Cu and ALS Cu data for pairing quarter core samples. Both R^2 and slope of trendline are near perfect and scatter is acceptable.

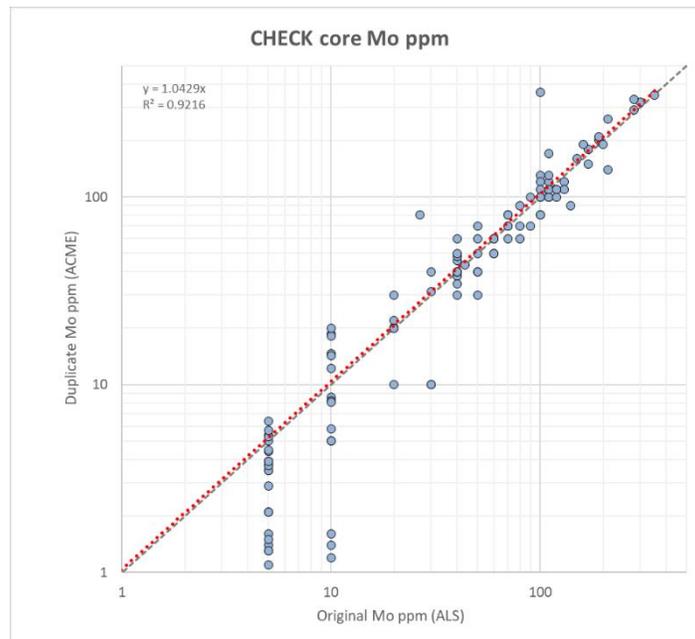


(Source: MMTS, 2024)

Figure 11-13 Core check Scatter Plot 2012 for Hushamu and Red Dog, Cu

Figure 11-14 shows the Mo results for 2012 check-core assaying as available in NorthIsle's current assay database. While ALS was requested to assay using the ME-MS61 method at the start of the program before switching to the Mo-OG62 high-grade method the rest of the way, ACME certificates reported Mo results from both ICP-MS (trace method 1EX) and ICP-ES (ore grade 7TD). The ore-grade data was prioritized in the database, resulting in noticeable granularity in the scatter plot, even at high grades >100ppm. A review of certificates of one strong outlier at 100ppm and 360ppm, respectively, found the data to be correct, which indicates that in this case the quarter core that went to ACME did contain 3.68 times the Mo that the ALS quarter core returned. This is equally reflected in the Re plot below.

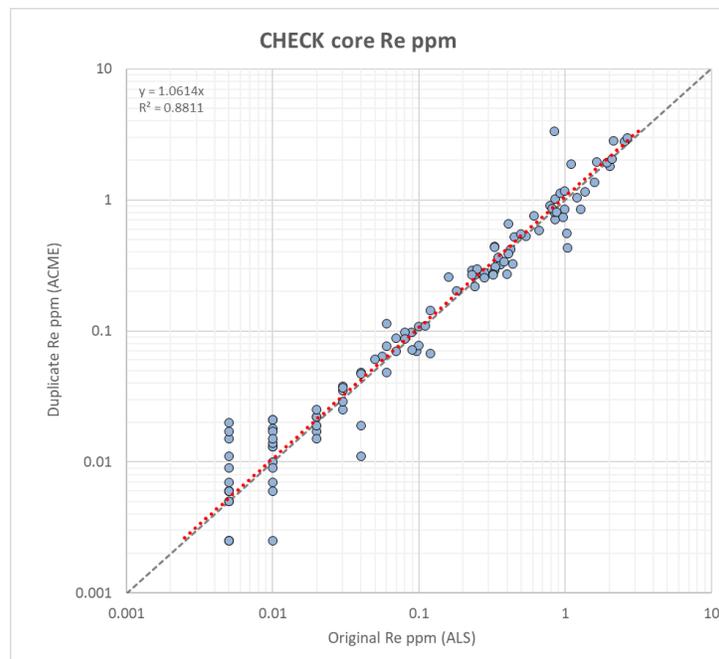
The correlation of the Mo data is good despite the granularity of ALS data at low grades.



(Source: MMTS, 2024)

Figure 11-14 Core check Scatter Plot 2012 for Hushamu and Red Dog, Mo

The Re results plotted in Figure 11-15 show a good correlation with R^2 at 0.88. The R^2 improves to 0.96 when the one highest-grade outlier is being removed from the plotted group. No significant bias was noticed.



(Source: MMTS, 2024)

Figure 11-15 Core check Scatter Plot 2012 for Hushamu and Red Dog, Re

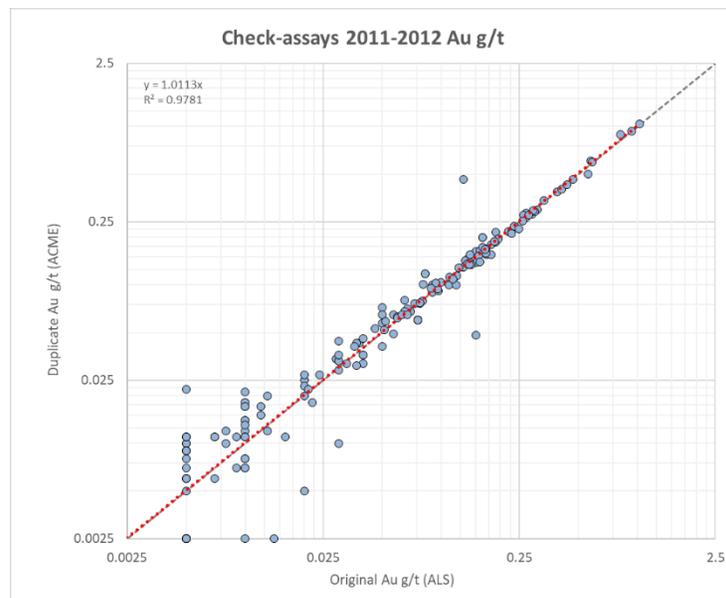
11.5.3 Check Assays 2005, 2008, 2011-2012, 2016

In 2005, 18 select pulps prepared and analyzed by ALS Chemex were sent to ACME for check-assaying purposes. This represents approx. 5% of the samples taken that year. MMTS could not confirm the secondary lab data via certificate and is therefore not presenting any scatter plots, but a preliminary review of the assay results provided by NorthIsle indicates very good correlations for Au, Cu, and Mo. Rhenium results were not reported.

For 2008, IMA consistently sent 5% of pulps prepared and analyzed by ALS Chemex to an independent laboratory for check analyses of copper, molybdenum and gold. The pulps prepared at ALS Chemex were sent to ACME Laboratories in Vancouver for analysis by the same analytical procedures as the original analytical work (4 acid digestion of a 0.25g pulp split and ICP-ES finish). IMA's standard pulps were included in shipments to Acme to monitor the accuracy of analytical check results. IMA carried out systematic analyses for rhenium at ALS Chemex using four acid digestion and mass spectrometry. Independent laboratory checks were performed on 33 of these samples at IPL Plasma Labs in Richmond, B.C., who used the same methods.

As with the coarse crush samples of 2008, the check-assay results by ACME and IPL were not available for the QP to review, however, the 2011 Technical Report on the Island Copper Property by A. Burgert and J. Houle illustrates very good correlations in Q-Q plots for Au, Cu, Mo (ACME) as well as Re (IPL).

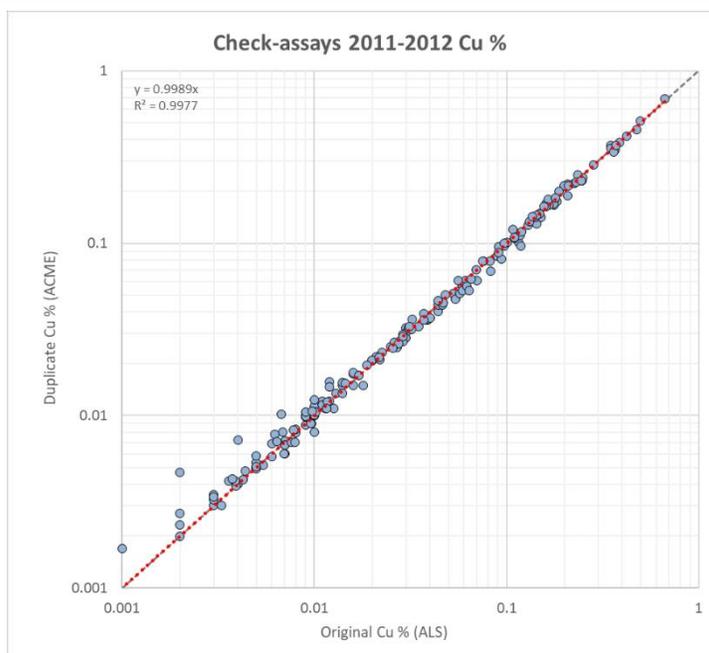
The check-assays completed by ACME in 2011-2012 sum up to 182 comparable data in the case of Au. Figure 11-16 confirms a very good correlation despite two noticeable outliers.



(Source: MMTS, 2024)

Figure 11-16 Check-assay Scatter Plot 2011-2012 for Hushamu and Red Dog, Au

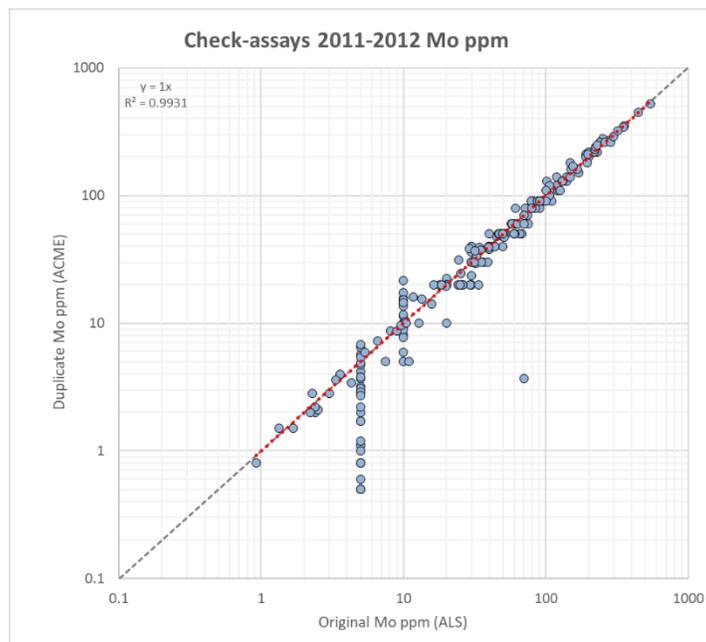
Figure 11-17 displays a near perfect correlation without bias between ALS and ACME Cu assays across 185 data pairs.



(Source: MMTS, 2024)

Figure 11-17 Check-assay Scatter Plot 2011-2012 for Hushamu and Red Dog, Cu

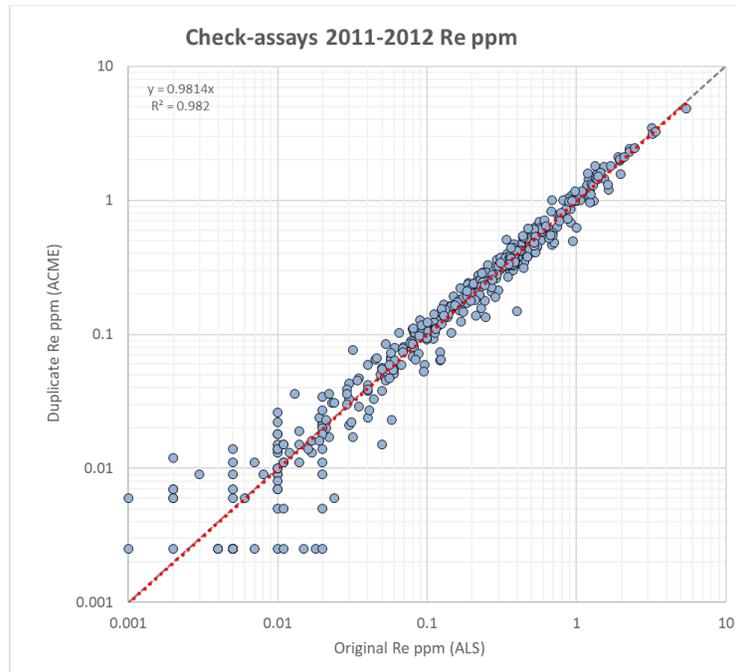
Mo check-assay results are shown in Figure 11-18. A total of 231 samples could be reviewed for comparison. The correlation is very good despite the ALS method Mo-OG62's relatively high detection limit of 10ppm and the resulting granularity in the plotted data (< detection limit data was replaced by 0.5*detection limit). One single outlier but no bias was noted.



(Source: MMTS, 2024)

Figure 11-18 Check-assay Scatter Plot 2011-2012 for Hushamu and Red Dog, Mo

Figure 11-19 shows a scatter plot of 407 samples selected for Re check-assaying. The correlation is very good with an R^2 at 0.98. Both the ALS and the ACME assays average 0.38ppm Re, further underlining the comparability of the 4 acid methods 1EX (ACME) and ME-MS61 (ALS).

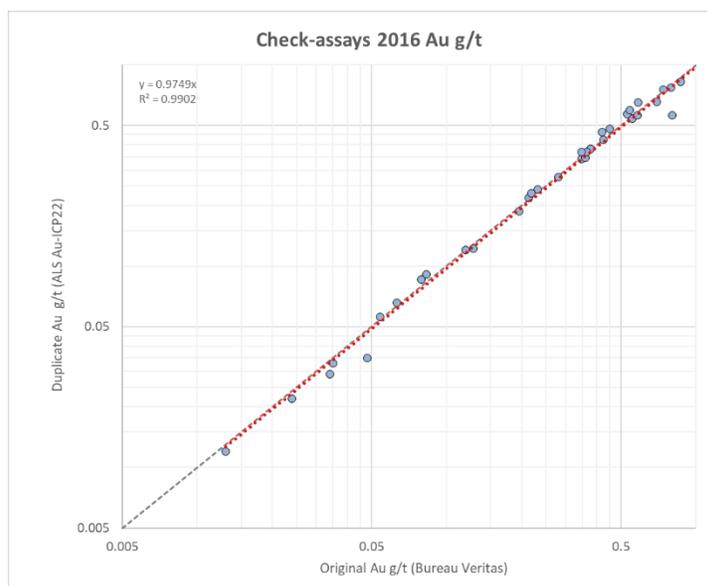


(Source: MMTS, 2024)

Figure 11-19 Check-assay Scatter Plot 2011-2012 for Hushamu and Red Dog, Re

For the 2016 drilling campaign at Red Dog, NorthIsle shifted to Bureau Veritas (BVL) as the primary assay lab while using ALS as the umpire lab for a set of 36 selected sample pulps. ALS was requested to perform an ICP-AES finish on the 30g fire assay procedure (Au-ICP21) and regular 4 acid trace-element analysis for all other elements (ME-MS61). All results indicate very good confirmation of original assays.

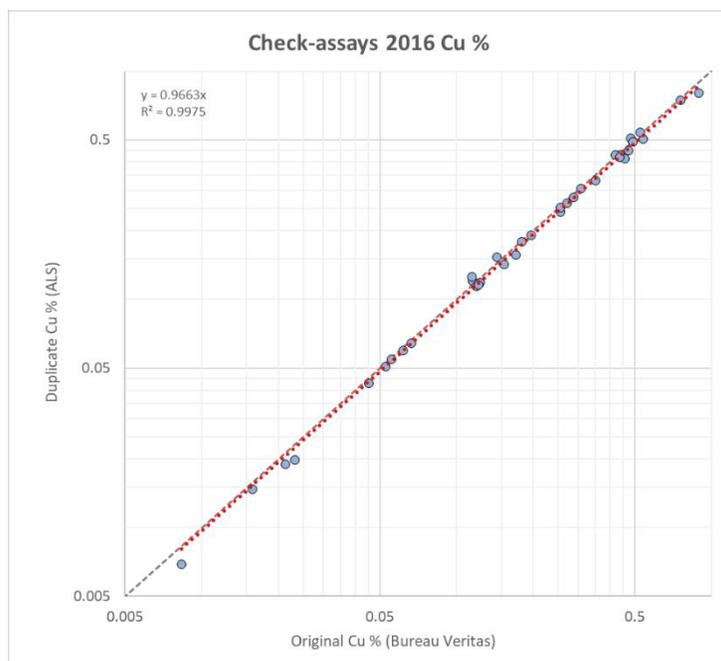
Figure 11-20 shows the check-assay 2016 performance for Au. R^2 is at 0.99 and no significant bias was detected.



(Source: MMTS, 2024)

Figure 11-20 Check-assay Scatter Plot 2016 for Hushamu and Red Dog, Au

Figure 11-21 graphs the comparison between BVL and ALS assay results for Cu. The correlation is near perfect, and no significant bias was noted.

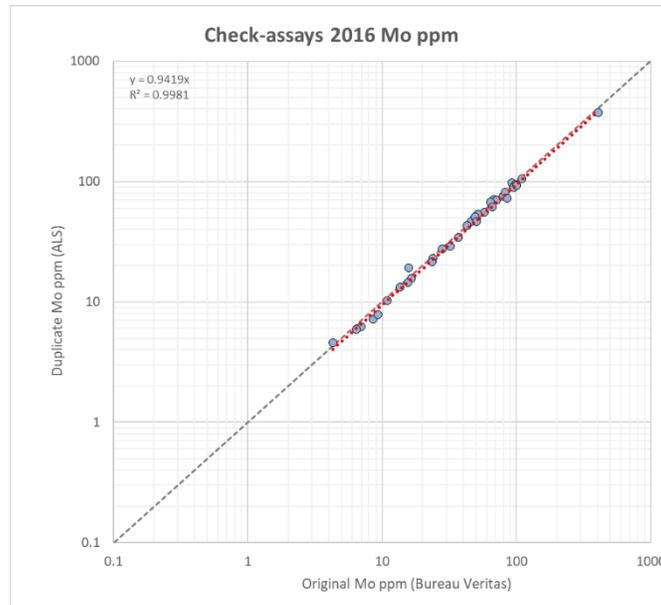


(Source: MMTS, 2024)

Figure 11-21 Check-assay Scatter Plot 2016 for Hushamu and Red Dog, Cu

Figure 11-22 demonstrates the check-assay performance for Mo. Again, the correlation between the two datasets is near perfect without any significant trends or biases. It was noted however that no

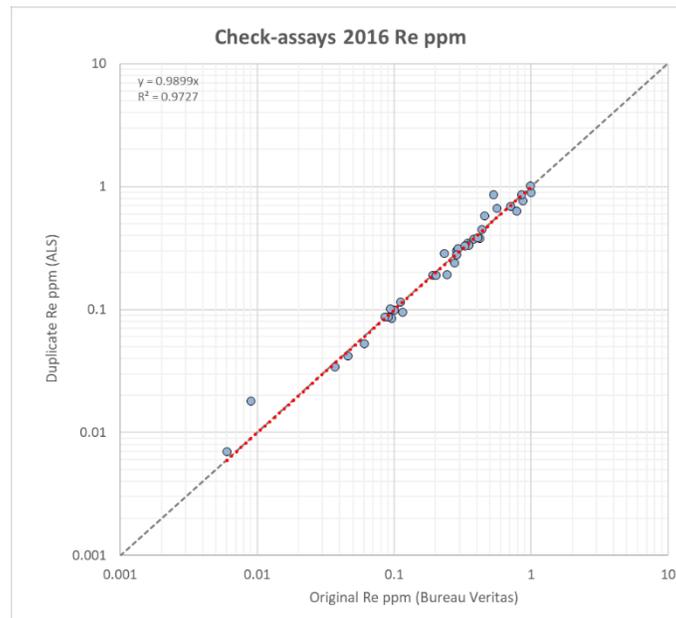
samples were selected to check-assay the relevant grade range between 100ppm and 300ppm, with a single the high-grade Mo sample at 370ppm.



(Source: MMTS, 2024)

Figure 11-22 Check-assay Scatter Plot 2016 for Hushamu and Red Dog, Mo

Figure 11-23 shows very good correlation with R^2 at 0.97, no significant bias, and a representative selection of sample pulps with Re concentrations between 0.1ppm and 1ppm.



(Source: MMTS, 2024)

Figure 11-23 Check-assay Scatter Plot 2016 for Hushamu and Red Dog, Re

The QP is not aware of any check-assaying that was performed after the 2017, 2021, and 2022 campaigns.

11.6 QA/QC Analysis - Northwest Expo

Assay data used for resource modelling at Northwest Expo consists predominantly of results generated in 2021 and 2023, which is reflected in the high total count of blind QA/QC sample insertions in those years, specifically the field duplicates. Several of the 2008 HQ drillhole results were incorporated into the resource model and a limited QA/QC protocol was being followed for contamination and accuracy, however The QP was not able to review the blanks and standards performance for this report.

As per Table 11-8, the overall QA/QC insertion rate relative to total core samples taken at Northwest Expo approaches 11.5% which is lower than recommended despite the exceptionally high CRM insertion rate in 2021 (>10%). In general, blanks, STDs and field duplicates were inserted at regular intervals which leads to a good representation across every drillhole. Check-assaying has only been performed in 2005 at a rate of 5%.

Table 11-8 QA/QC Sample Summary – Northwest Expo

Northwest Expo QA/QC	2005		2007		2008		2021		2023		all years	
	count	% of total	count	% of total	count	% of total	count	% of total	count	% of total	count	% of total
Total intervals sampled	529	100.0%	1,131	100.0%	1,497	100.0%	1,456	100.0%	2,490	100.0%	7,103	100.0%
Total blanks	22	4.2%	25	2.2%	40*	2.7%	93	6.4%	105	4.2%	285	4.0%
Total STDs	20	3.8%	24	2.1%	39*	2.6%	154	10.6%	89	3.6%	326	4.6%
Total duplicates	18	3.4%	24	2.1%	0	0.0%	82	5.6%	82	3.3%	206	2.9%
Total check-assays	27	5.1%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	27	0.4%
Total QA/QC	87	16.4%	73	6.5%	79	5.3%	329	22.6%	276	11.1%	844	11.9%

11.6.1 Blanks – Northwest Expo

Just as at Hushamu and Red Dog, several different blank types have been inserted into the sample stream over time to control contamination, generally one blank per drilling campaign, with 2023 and parts of 2021 being the exception (one coarse blank and a fine blank). The performance for all blanks is very good, proving that cross-sample contamination by sample prep or analysis at ALS, Bureau Veritas, and MSA is not a concern for Northwest Expo assay results.

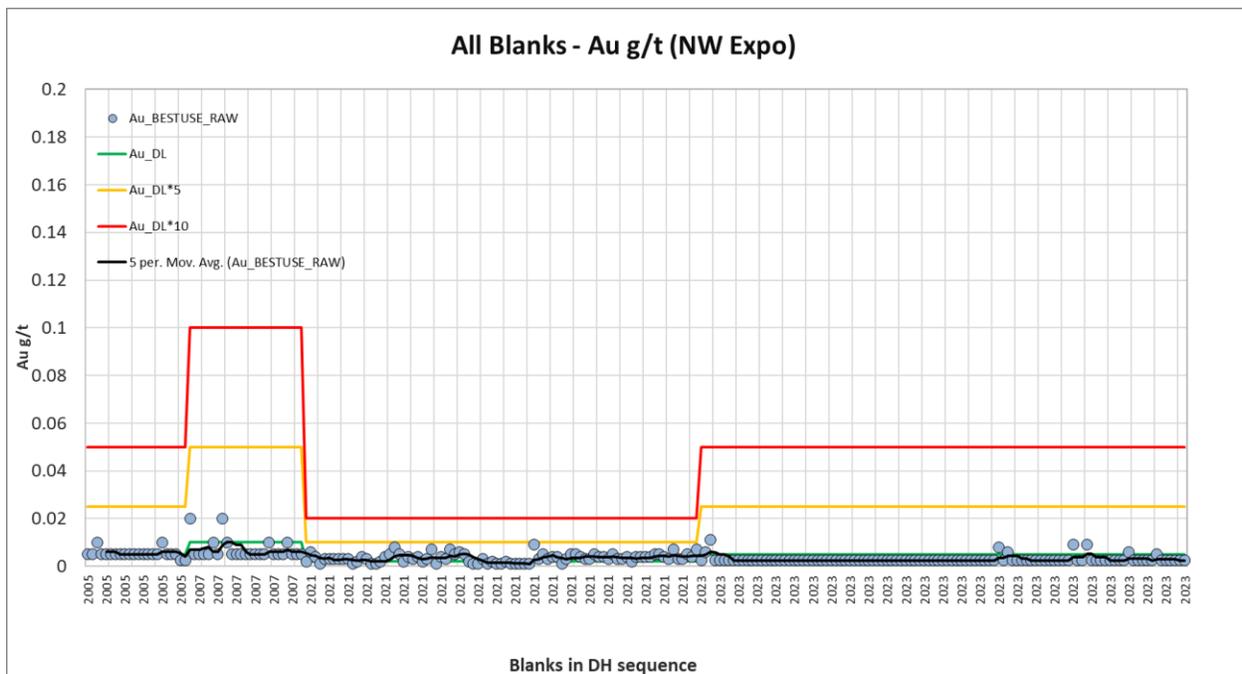
Table 11-9 lists the various blanks and their total insertion count by year.

Table 11-9 Blanks by Year – Northwest Expo

Blank Name	2005	2007	2008	2021	2023
Blank	22	0	40	0	0
CDN-BL-10	0	0	0	8	0
CDN-BL-10P	0	0	0	0	43
CoarseBLNK	0	0	0	85	62
STD-BLNK	0	25	0	0	0
Total	22	25	40	93	105
Core samples	529	1,131	1,497	1,456	2,490
Insertion rate %	4.2%	2.2%	2.7%	6.4%	4.2%

All blanks are combined into one plot, showing the reporting of each respective metal over time, irrespective of laboratory or method. 5 times detection limit (5*DL as yellow line) is used as the warning threshold and 10*DL as the failure threshold (red line). The lines illustrate the variation in detection/lower reporting limits.

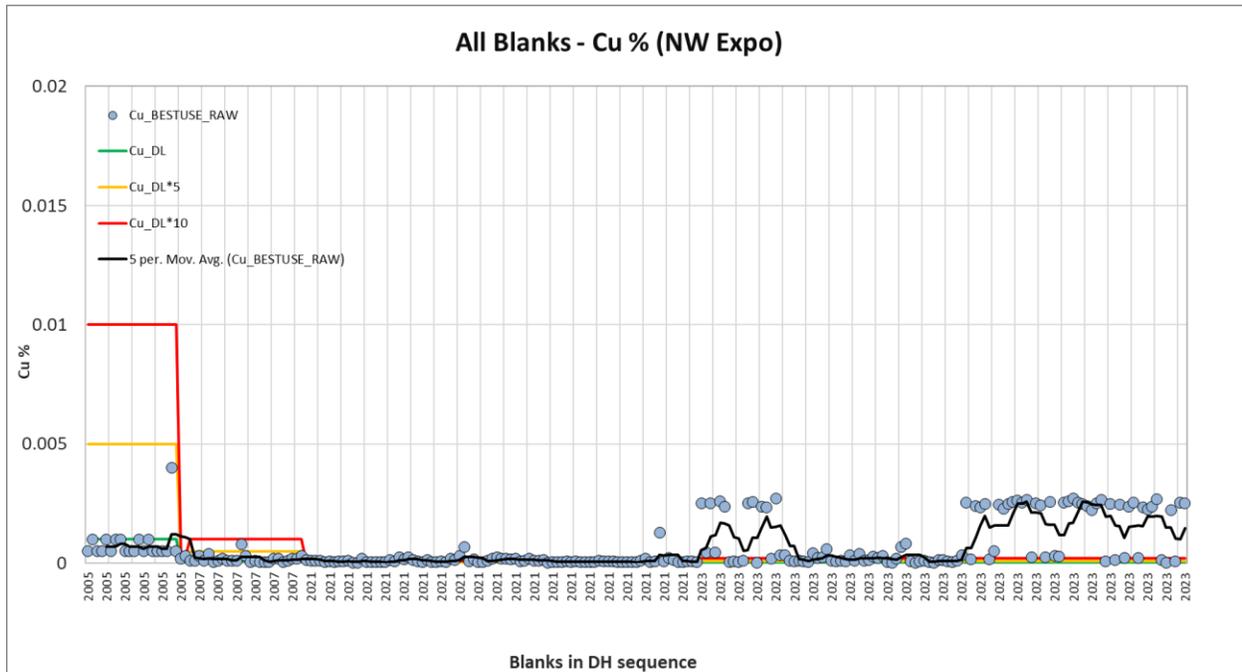
Figure 11-24 illustrates that no Au assay exceeded the failure threshold of 10*DL.



(Source: MMTS, 2024)

Figure 11-24 2005-2023 Blanks Performance – Northwest Expo, Au

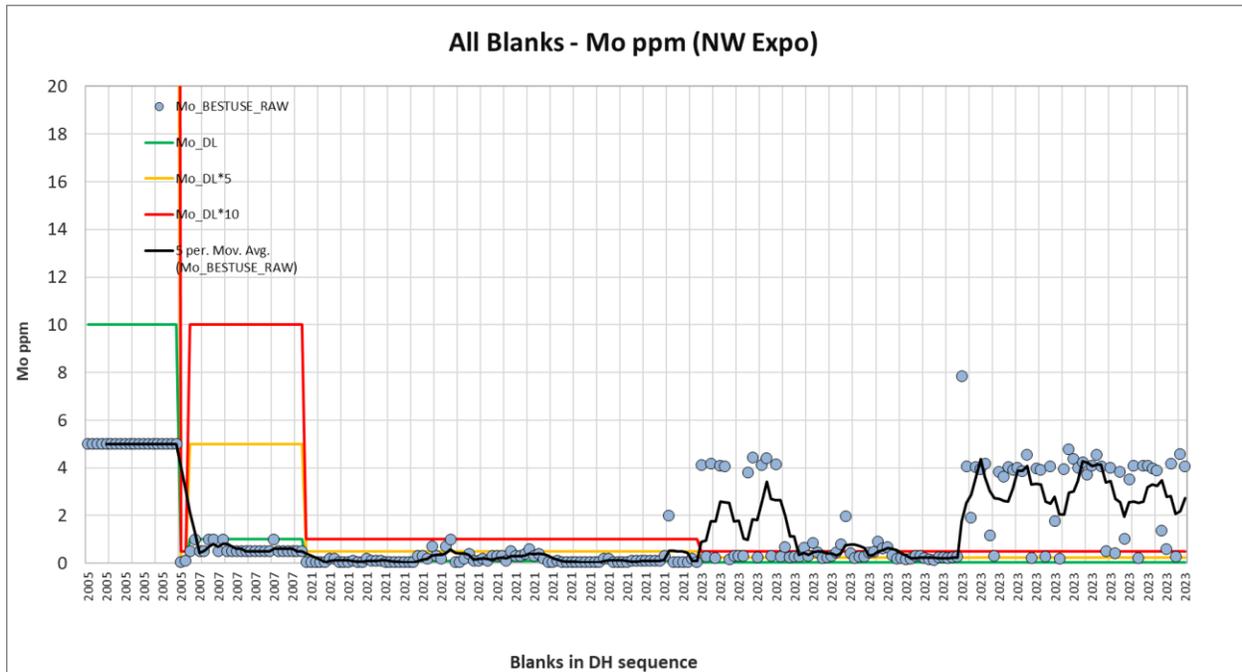
Figure 11-25 demonstrates the shifts in natural background Cu concentrations in 2023. No significant contamination was noted.



(Source: MMTS, 2024)

Figure 11-25 2005-2023 Blanks Performance – Northwest Expo, Cu

In Figure 11-26, Mo appears to have failed meaningfully once at 8ppm in drillhole NW23-17. However, given the single occurrence and the use of blank CDN-BL-10P at the time of drilling and lab preparation with its natural background values of approx. 25ppm Cu and 4ppm Mo, this outlier is considered inconsequential. Also noted was a consistent but weak contamination of the blanks in drillholes NW21-03 and NW21-04 as well as in drillholes NW23-11 to NW23-16 where the coarse blank was consistently used and returned 0.4ppm Mo on average. This level of cross-sample contamination is considered unlikely to significantly impact Mo grades in the resource.



(Source: MMTS, 2024)

Figure 11-26 2005-2023 Blanks Performance– Northwest Expo, Mo

Re data was also reviewed where available and no failures or contamination trends were detected.

11.6.2 Certified Reference Materials – Northwest Expo

All available assay data from analyses of 13 different blindly inserted certified reference materials between 2005 and 2023 have been compiled and normalized into one PCC graph, sorted by drillhole sequence and displayed over time, to assess accuracy performance. Several of the CRMs are not certified for Au and PM403 (WCM) not certified for Cu or Mo. None of the selected standards are certified for Rhenium. Table 11-10 lists all standards by count and insertion rate by year. Table 11-11 details each CRM’s usage rate, averaged performance, and failure count for Au. 2008 CRM data is currently not available for review and interpretation (indicated by * in the following tables).

Table 11-10 CRM's Count and Insertion Rate by Year – Northwest Expo

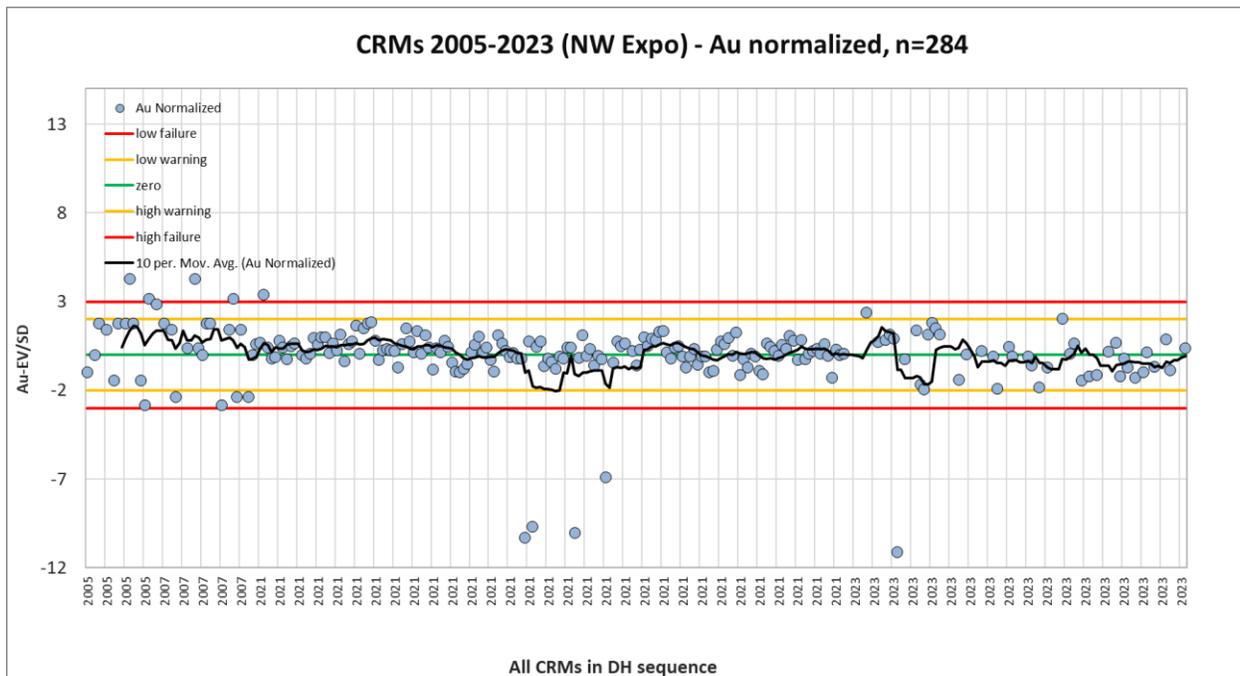
CRM name	2005	2007	2008	2021	2023
WCM_PM403	6	9	0	0	0
WCM_CU116	7	8	0	0	0
WCM_CU132	7	7	0	0	0
WCM_CU171	0	0	34*	0	0
WCM_CU172	0	0	4*	0	0
WCM_CU173	0	0	1*	0	0
WCM_CU181	0	0	0	15	0
WCM_CU188	0	0	0	122	0
WCM_CU190	0	0	0	17	0
CDN-CM-32	0	0	0	0	29
CDN-CM-33	0	0	0	0	17
CDN-CM-42	0	0	0	0	9
OREAS 608	0	0	0	0	34
Total	20	24	39	154	89
Core samples	529	1,131	1,497	1,456	2,490
Insertion rate %	3.8%	2.1%	2.6%	10.6%	3.6%

Table 11-11 CRM Performance Details – Northwest Expo, Au

CRM	Year used	Count	EV Au (g/t)	AVG Au (g/t)	% Error	Low Fail	High Fail	% Fail
WCM_PM403	2005-2007	15	0.167	0.173	3.2%	0	2	13.3%
WCM_CU116	2005-2007	15	n/a	n/a	n/a	n/a	n/a	n/a
WCM_CU132	2005-2007	14	0.170	0.174	2.5%	0	2	14.3%
WCM_CU171	2008	34*	n/a	n/a	n/a	n/a	n/a	n/a
WCM_CU172	2008	4*	n/a	n/a	n/a	n/a	n/a	n/a
WCM_CU173	2008	1*	n/a	n/a	n/a	n/a	n/a	n/a
WCM_CU181	2021	15	0.590	0.572	-3.1%	1	0	6.7%
WCM_CU188	2021	122	0.402	0.401	-0.2%	3	1	3.3%
WCM_CU190	2021	17	0.680	0.684	0.5%	0	0	0.0%
CDN-CM-32	2023	29	n/a	n/a	n/a	n/a	n/a	n/a
CDN-CM-33	2023	17	n/a	n/a	n/a	n/a	n/a	n/a
CDN-CM-42	2023	9	0.576	0.539	-6.9%	1	0	11.1%
OREAS 608	2023	34	1.210	1.210	0.0%	0	0	0.0%
Total	2005-2023	326				5	5	3.1%

Figure 11-27 shows an overall acceptable accuracy for Au, but multiple trends or issues were detected in the data: significantly higher scatter with a weak high bias carried by 5 high failures in 2005 and 2007 were noted, indicating poor analytical precision, and in the sample stream for NW21-04 and NW21-05, 4 low failures were recorded that should have triggered review and rerun of the respective ALS reports VAN21003494, VAN21003922, and VAN21003923. The CRMs in question (WCM CU181 and WCM CU188) are medium- to high-grade standards at 0.59g/t and 0.4g/t, respectively. A single but strong negative outlier in the MSA assay data of 2023 was also noted (sample C0211740).

Table 11-12 above shows the performance details of Cu.



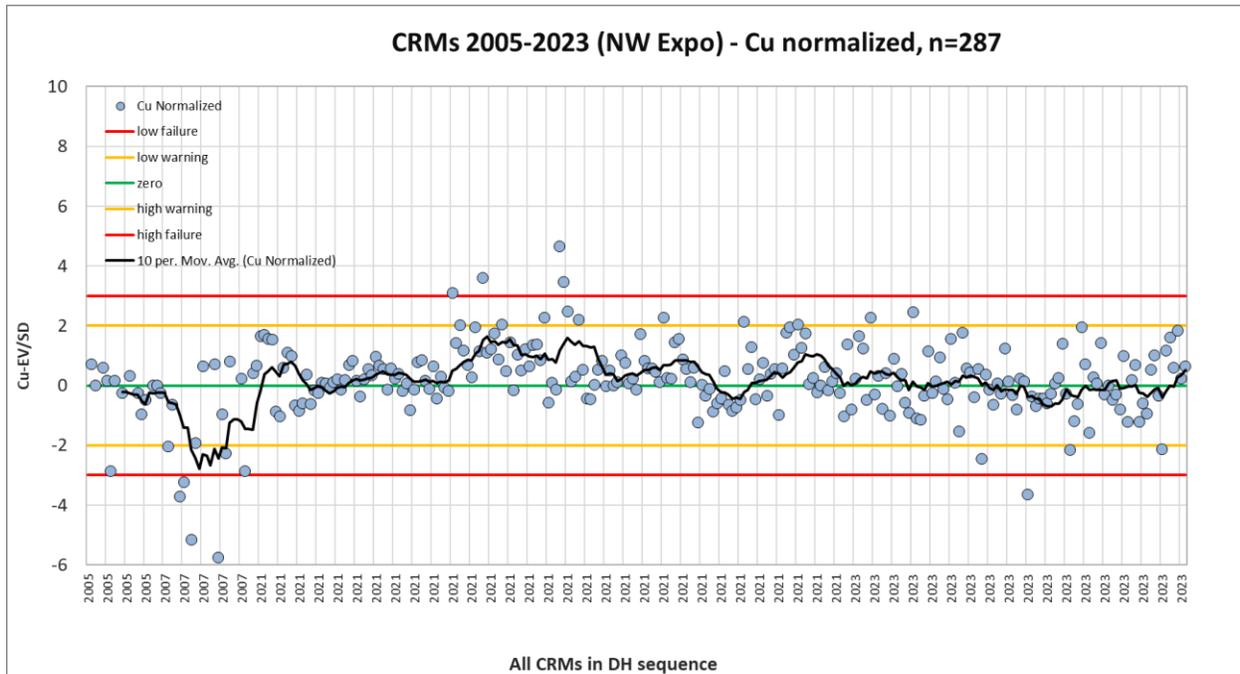
(Source: MMTS, 2024)

Figure 11-27 2005-2023 CRM Performance – Northwest Expo, Au

Table 11-12 CRM Performance Details – Northwest Expo, Cu

CRM	Year used	Count	EV Cu %	AVG Cu %	% Error	Low Fail	High Fail	% Fail
WCM_PM403	2005-2007	15	n/a	n/a	n/a	n/a	n/a	n/a
WCM_CU116	2005-2007	15	0.473	0.458	-3.2%	4	0	26.7%
WCM_CU132	2005-2007	14	0.168	0.167	-0.6%	0	0	0.0%
WCM_CU171	2008	34*	n/a	n/a	n/a	n/a	n/a	n/a
WCM_CU172	2008	4*	n/a	n/a	n/a	n/a	n/a	n/a
WCM_CU173	2008	1*	n/a	n/a	n/a	n/a	n/a	n/a
WCM_CU181	2021	15	0.590	0.614	3.8%	0	1	6.7%
WCM_CU188	2021	122	0.179	0.182	1.4%	0	0	0.0%
WCM_CU190	2021	17	0.650	0.671	3.2%	0	3	17.6%
CDN-CM-32	2023	29	0.234	0.234	0.0%	0	0	0.0%
CDN-CM-33	2023	17	0.346	0.350	1.3%	0	0	0.0%
CDN-CM-42	2023	9	0.526	0.518	-1.5%	0	0	0.0%
OREAS 608	2023	34	0.101	0.101	-0.2%	1	0	2.9%
Total	2005-2023	326				5	4	2.8%

Figure 11-28 graphs all Cu data to control accuracy of results. Most of the data approaches the expected values of the CRMs but 2007 Cu data (ALS) is clearly biased low with 4 of 24 samples exceeding the low failure threshold (16.5%). In 2021, the CRMs controlling accuracy for drillholes NW21-03 and NW21-04 are biased high and average 0.488% Cu versus the expected 0.466% for these 34 data points. Reruns should have been requested for certificates VAN21003398 and VAN21003494. All later data illustrates acceptable accuracy and precision. Table 11-13 above shows the performance details for Mo.



(Source: MMTS, 2024)

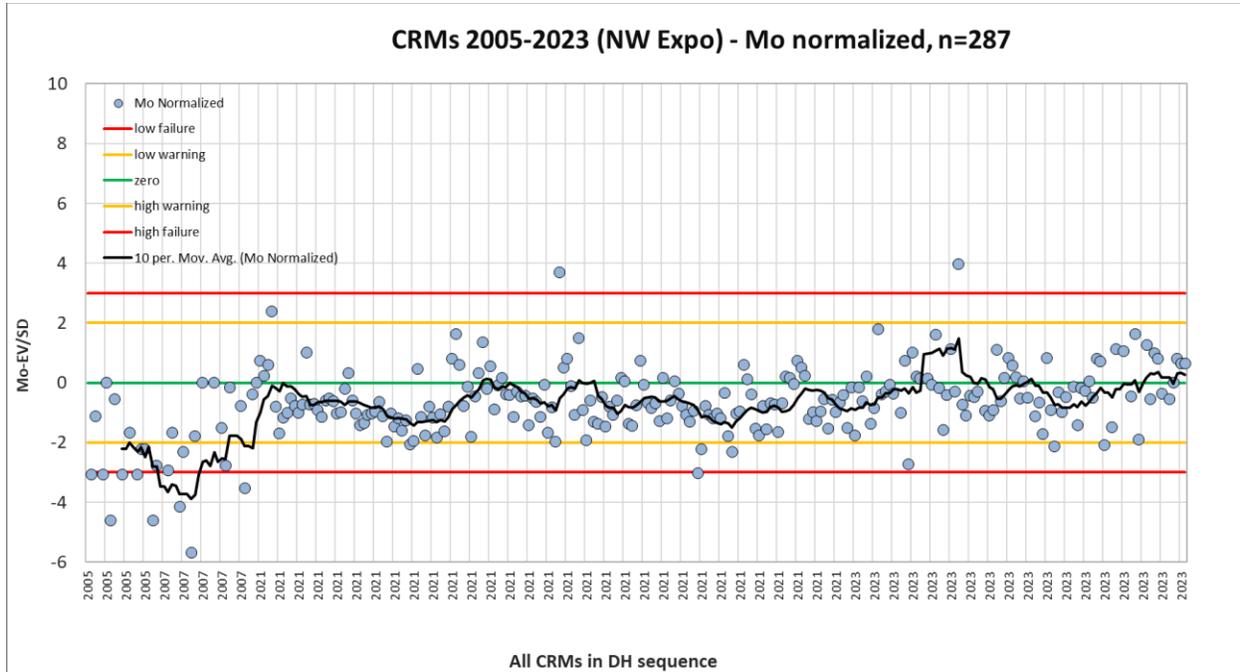
Figure 11-28 2005-2023 CRM Performance – Northwest Expo, Cu

Table 11-13 CRM Performance Details – Northwest Expo, Mo

CRM	Year used	Count	EV Mo ppm	AVG Mo ppm	% Error	Low Fail	High Fail	% Fail
WCM_PM403	2005-2007	15	n/a	n/a	n/a	n/a	n/a	n/a
WCM_CU116	2005-2007	15	230	205	-12.0%	11	0	73.3%
WCM_CU132	2005-2007	14	460	438	-4.9%	0	0	0.0%
WCM_CU171	2008	34*	n/a	n/a	n/a	n/a	n/a	n/a
WCM_CU172	2008	4*	n/a	n/a	n/a	n/a	n/a	n/a
WCM_CU173	2008	1*	n/a	n/a	n/a	n/a	n/a	n/a
WCM_CU181	2021	15	835	846	1.3%	0	1	6.7%
WCM_CU188	2021	122	177	170	-4.1%	1	0	0.8%
WCM_CU190	2021	17	323	312	-3.4%	0	0	0.0%
CDN-CM-32	2023	29	230	221	-4.1%	0	0	0.0%
CDN-CM-33	2023	17	250	249	-0.5%	0	0	0.0%
CDN-CM-42	2023	9	n/a	n/a	n/a	n/a	n/a	n/a
OREAS 608	2023	34	4	4	4.6%	0	2	5.9%
Total	2005-2023	326				12	3	4.6%

Normalized Mo results shown in Figure 11-29 again indicate a relatively poor performance by ALS in 2005 and 2007 as the data is strongly biased low with several failures. The 3 standards CU116, CU132, and PM403 inserted at the time were prepared by WCM Minerals in Burnaby, BC, who used a limited set of data (total of 22 analyses from 4 laboratories) to certify the material for Mo which might partially explain the variance to the ALS results.

The 2021 Mo data is consistently biased moderately low by approx. 3%, but again, this could be a function of the limited data used to certify the reference material (total of 36 analyses from 6 laboratories for each of CU181, CU188, and CU190 by WCM).



(Source: MMTS, 2024)

Figure 11-29 2005-2023 CRM Performance – Northwest Expo, Mo

No Rhenium-certified standards were used at the project to 2023.

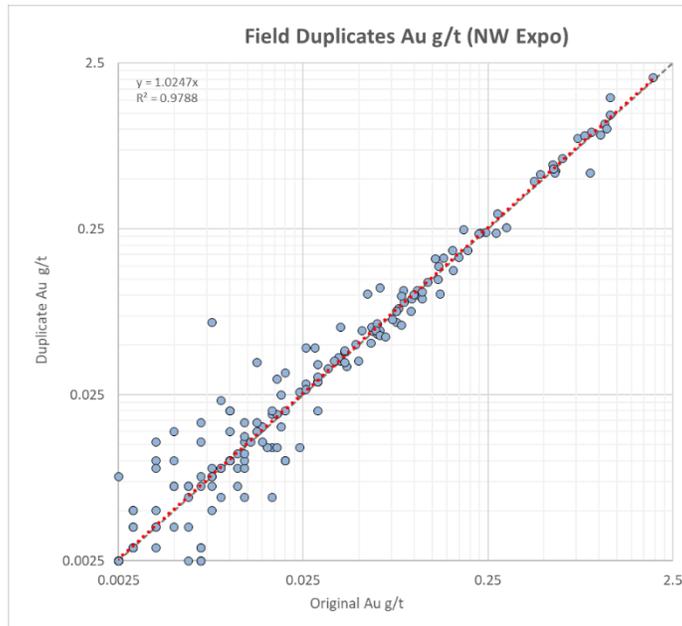
The QP finds the results of the accuracy control materials overall acceptable.

11.6.3 Duplicates – Northwest Expo

The Northwest Expo assay database currently contains field duplicate data for the years 2007, 2021 and 2023. 18 coarse reject duplicates were completed in 2005, but the QP is not aware of any pulp duplicate data that may have been requested in addition to the lab-internal sets of duplicates. No field duplicates were taken in 2008.

11.6.3.1 Field Duplicates – Northwest Expo

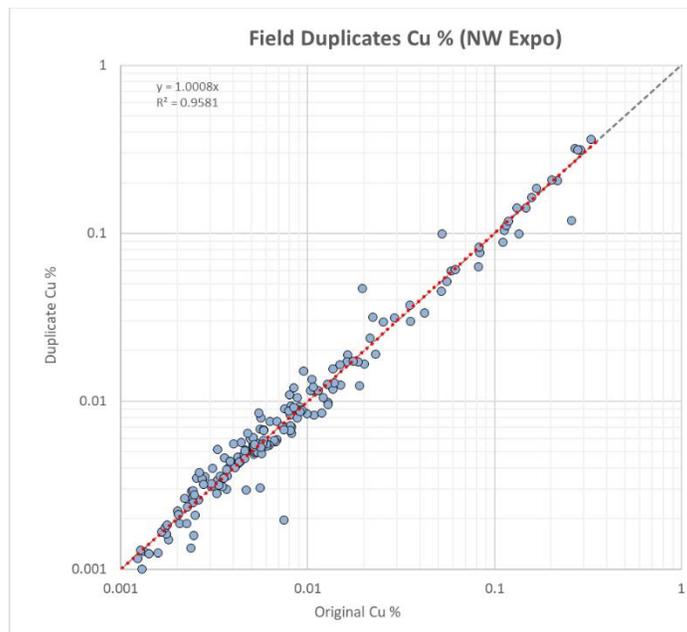
The Northwest Expo contains 188 field duplicate data pairs for years 2007 (24 pairs), 2021 (82), and 2023 (82). The correlations between the original and duplicate datasets are very good for all 4 elements under investigation. Figure 11-30 shows Au results for field duplicates. Basically, all data plots very close to the 1-1 line of perfect correlation and the point distribution across the relevant grade range is representative.



(Source: MMTS, 2024)

Figure 11-30 Field Duplicate Scatter Plot 2007-2023 – Northwest Expo, Au

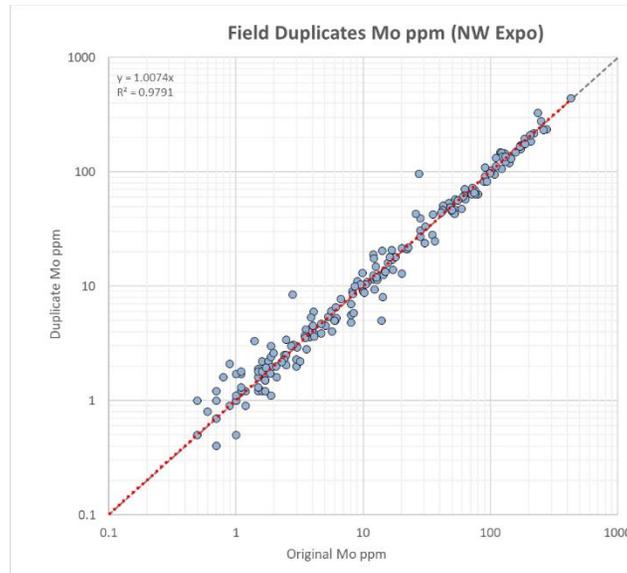
Figure 11-31 illustrates very good reproducibility for Cu. It was noted that weakly Cu-mineralized material appears over-represented and only 16 sample pairs grade >0.1% Cu. This contrasts with the Au and Mo results for which the grade distributions are more gradual.



(Source: MMTS, 2024)

Figure 11-31 Field Duplicate Scatter Plot 2007-2023 – Northwest Expo, Cu

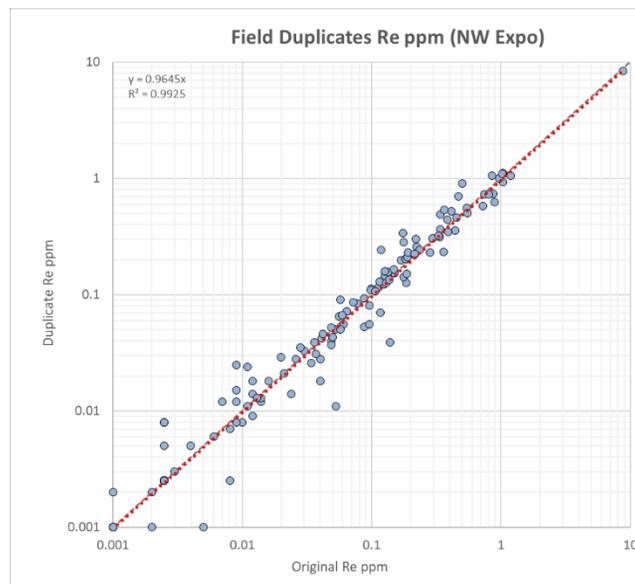
Figure 11-32 shows a Mo data scatter plot with an R^2 of 0.98. The data is well distributed across the project-relevant grade range of 1ppm to 300ppm. The amount of scatter away from the 1-1 line is exceptionally low for Mo in a Cu-Mo porphyry environment.



(Source: MMTS, 2024)

Figure 11-32 Field Duplicate Scatter Plot 2007-2023 – Northwest Expo, Mo

Figure 11-33 is a scatter plot of all available Re data in field duplicates at Northwest Expo that demonstrates very good repeatability. The grade distribution is representative with most of the data plotting between 0.01ppm and 1ppm. One single high-grade pair at 9ppm pushes the trendline slightly into original-positive.



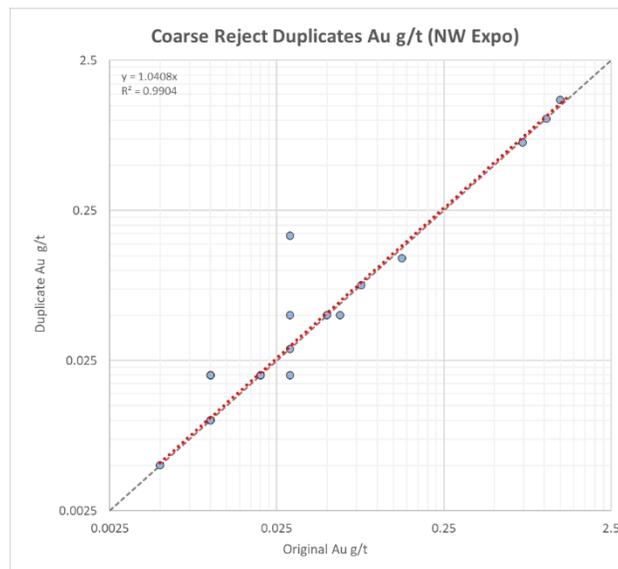
(Source: MMTS, 2024)

Figure 11-33 Field Duplicate Scatter Plot 2007-2023– Northwest Expo, Re

The QP finds the field duplicate data for Northwest Expo acceptable.

11.6.3.2 Coarse Reject Duplicates 2005 – Northwest Expo

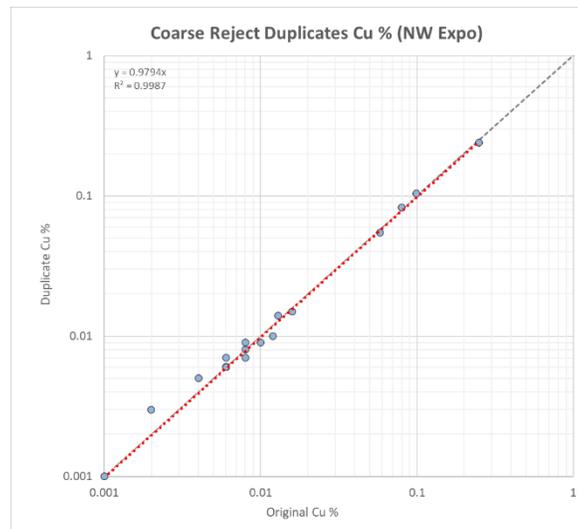
From drillholes EC-218 to EC-228, 18 coarse rejects were selected for duplicate analysis by ME-ICP61a at ALS and re-submitted. The method does not report Re. These 18 rejects were also part of the check-assay group of samples described in 11.5.3.3. Figure 11-34 graphs the Au data and the correlation as well as the grade distribution are overall acceptable despite the small population. One pair qualifies as an outlier at 0.03g/t and 0.17g/t, respectively, but because of the low grade the R^2 and slope of the trend line are minimally affected.



(Source: MMTS, 2024)

Figure 11-34 Coarse Reject Duplicate Scatter Plot 2005 – Northwest Expo, Au

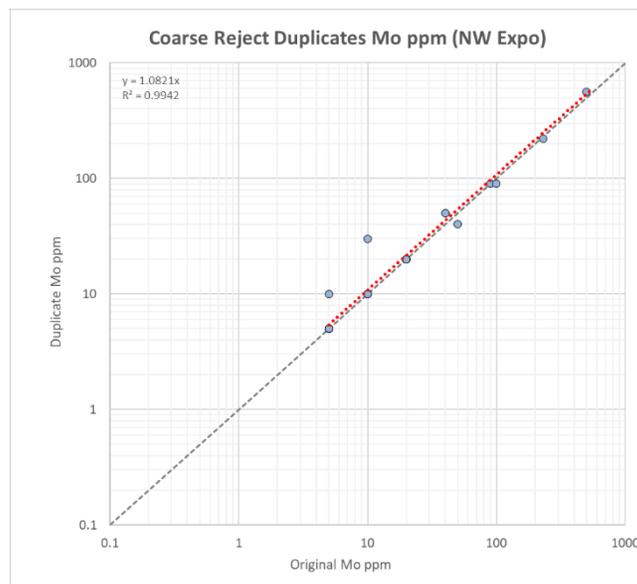
The Cu assays shown in Figure 11-35 demonstrate near-perfect reproducibility at the crush stage.



(Source: MMTS, 2024)

Figure 11-35 Coarse Reject Duplicate Scatter Plot 2005 – Northwest Expo, Cu

Figure 11-36 equally demonstrates very good correlation and applicable grade distribution for Mo.

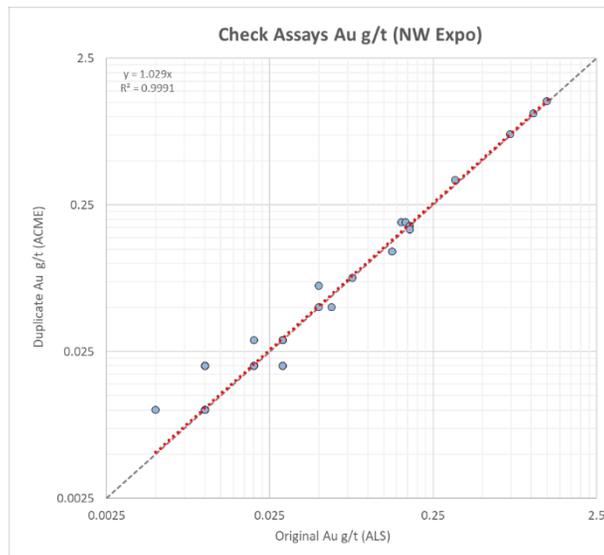


(Source: MMTS, 2024)

Figure 11-36 Coarse Reject Duplicate Scatter Plot 2005 – Northwest Expo, Mo

11.6.4 Check Assays 2005 – Northwest Expo

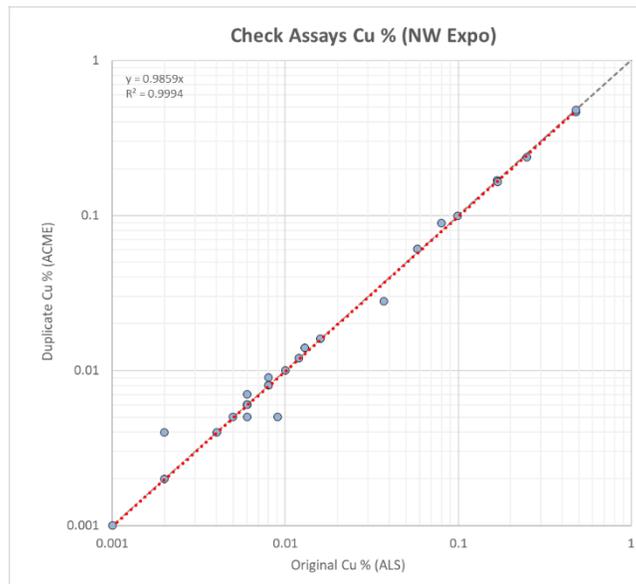
27 samples were selected from Northwest Expo material for check-assaying at a secondary lab in 2005. Group 6 fire assay plus Group 7TD 4 acid digestion method with ICP-ES finish for other relevant metals were requested from ACME Analytical in Vancouver, BC, and the results for Au are shown in Figure 11-37. The ALS Au results were confirmed without noticeable bias or significant scatter and an R^2 of 0.99.



(Source: MMTS, 2024)

Figure 11-37 Check-assay Scatter Plot 2005 – Northwest Expo, Au

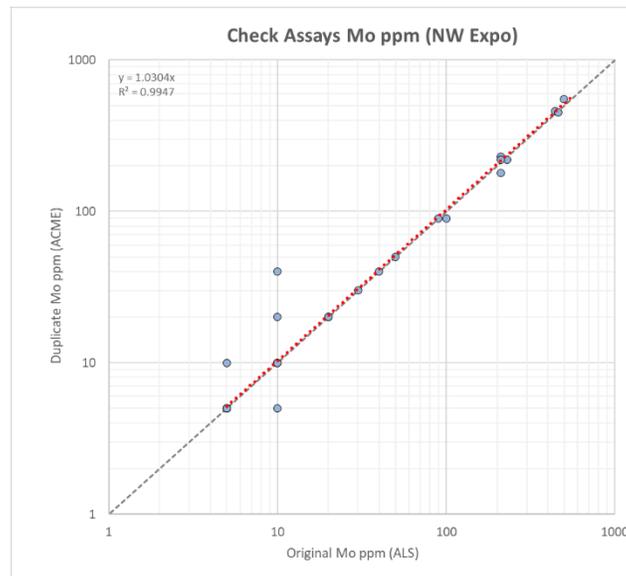
Figure 11-38 reports Cu assays from both labs in a log scatter plot. The correlation between the two sets of results is near perfect and no bias was detected. All grades are represented up to 0.5% Cu.



(Source: MMTS, 2024)

Figure 11-38 Check-assay Scatter Plot 2005 – Northwest Expo, Cu

Both ALS's and ACME's chosen methodologies reported Mo with a detection limit of 10ppm in 2005 which negatively affects the accuracy of the assay results of the very low-grade or un-mineralized part of the sample population, resulting in noticeable granularity in Figure 11-39, but in turn is more suitable for high-grade Mo samples. The correlation between the two lab results is near perfect at $R^2=0.99$ and no significant bias could be determined.



(Source: MMTS, 2024)

Figure 11-39 Check-assay Scatter Plot 2005, Mo

The samples were not analysed for Re.

11.7 QA/QC Conclusions and Recommendations

The QP finds that the Hushamu, Northwest Expo and Red Dog assaying and security procedures between 2005 and 2022 have been to industry standards. For Northwest Expo, MMTS has noticed several mislabels of QA/QC samples within the database. Also, the 2008 QA/QC data was not available for review for Northwest Expo.

Overall QA/QC performances with regards to contamination, accuracy, and precision have been acceptable. No significant data issues that could reasonably be expected to impact the results of the resource estimate were detected. For historic sampling with no QAQC, the data has been verified by comparison to assaying with Certificates and QAQC, as discussed in the following section.

The QP recommends the following for future drilling campaigns:

1. Continued usage of a purchased coarse limestone blank to avoid the variability in certain background concentrations, for instance Cu.
2. Select reference materials that are made from comparable porphyry copper materials and are certified for Au, Cu, Mo, and Re. Choose at least 3 different standards, ideally a low-grade, a medium-grade, and high-grade standard.
3. Select approx. 10% of returned pulps for check-assaying at a secondary independent laboratory and choose an analysis method like the primary lab's method. Assure that all grade ranges are respected.

The QP recommends the following for the current database:

1. Import all available data, including the check-assay data and the "a" and "b" samples of 2008.
2. Consider selecting ca. 100 pulps of the 2022 drill campaign for a check-assay program at ALS or Bureau Veritas since SGS was the primary laboratory that year.

-
3. Continue updating the database by identifying, reviewing, and reclassifying single core, blank, standard, or duplicate mislabels. Use a multi-element approach and a sample weight-to-sample interval ratio as guides.

12.0 Data Verification

12.1 Site Visit

The QP, Sue Bird of MMTS completed a site visit on April 20, 2024. During the site visit collar locations at each deposit were validated. The core storage site in Port Hardy was visited. The core from each deposit was examined for mineralization with 3 samples for re-assay obtained. The site geologists accompanied the QP to each deposit site and gave an overview of the deposits' alteration, lithologies and mineralization styles.

The three check assays showed good repeatability for Cu, with slightly lower grades for Au and higher for Mo. The sample size is too small to draw conclusions, and the data audit and verification discussed later in this report are considered sufficient to validate the data used for the resource estimate.

The QP, Peter Mehrfert of Ausenco has not completed a site visit.

12.2 Data Audit – Hushamu and Red Dog

The Hushamu / Red Dog drillhole database received from NorthIsle was audited and updated prior to resource modeling. Routine visual checks identified inconsistencies between assay values on certificates and those in the provided database, as well as missing assays. Some additional data has been added to the Hushamu deposit, and additional changes mainly to correct rounding errors. At Red Dog the changes are primarily to correct a few drillhole locations and to correct rounding errors.

To ensure the validity of data to be used in the resource estimation:

- Assay results post-dating 2008 were available as digital certificates and were loaded directly into Moose Mountain's data file, including:
 - Original assays from 2008 - 2022
 - Results of 2011 re-assay program (mostly Re only or Re-Au) (n=6315 samples)
- Moose Mountain compiled historic assay certificates available in public Assessment Reports from 1982 – 2007:
 - In cases where published assay values were handwritten or otherwise difficult to read (1982 & 1990 drilling – reports 10982, 11048, 20610), a 100% visual check was conducted and documented (n=1143 samples)
 - For several drill campaigns within the Red Dog and Hushamu resource areas from 1990 – 2005, legible assay certificates were available in published Assessment Reports (#14058, 20117, 21352, 21612, 21759, 22292, 23407). These were extracted to Excel using optical character recognition (OCR) software ABBYY and were checked and were entered manually / corrected where necessary (n=3568 original samples)
 - Assays from 1991 re-assay campaign were similarly digitized (AR #21759) (n=1115 samples)

The above datasets were used to populate the assay data file using the following priority order for each modelled element:

1. 2011 re-assay value
2. 1991 re-assay value
3. Digitized certificate value
4. Visually verified historical assay values

5. Original value from NorthIsle database (designated as “no-certificate”)

As a final assay data validation check, MMTS generated an assay compilation from randomly selected lab certificates and lab datafiles to representatively check and validate the Moose Mountain data file. Table 12-1 lists the number of validated samples per year, the % checked excluding QA/QC samples, and the errors in % of total. This was completed for Au, Cu, Mo, and Re data where available.

63% of all data used was checked with very few errors detected in the Hushamu and Red Dog part of the database, likely the result of rounding and or occasional mistyping during database creation. The total errors in % of checked data is well below 1% and is acceptable. All discrepancies were found in Re.

Table 12-1 Final Assay Data Validation Stats Hushamu and Red Dog

Year	Samples total	Checked	%	Errors	%
2005	345	62	18%	2	3.2%
2008	250	91	36%	0	0.0%
2012	2,146	543	25%	7	1.3%
2014	592	543	92%	0	0.0%
2016	481	122	25%	0	0.0%
2017	606	517	85%	0	0.0%
2021	1,288	1,287	100%	0	0.0%
2022	1,175	1,175	100%	0	0.0%
Total	6,883	4,340	63%	9	0.2%

12.3 Data Audit – Northwest Expo

The final assay validation (Table 12-2) for the Northwest Expo data used in the Moose Mountain datafile returned 7 erroneous data from 2 samples for a total error rate of <1%. 78% of all utilized assay data (excluding QA/QC) was compared against original certificates. For certificate YVR2311218 (MSA 2023), a data shift by one was noticed between the signed report and the associated data file.

Table 12-2 Final Assay Data Validation Stats Northwest Expo

Year	Samples total	Checked	%	Errors	%
2005	624	505	81%	0	0.0%
2007	1,131	1,131	100%	3	0.3%
2008	1,497	0	0%	0	0.0%
2021	1,456	1,456	100%	0	0.0%
2023	2,490	2,490	100%	4	0.2%
Total	7,198	5,582	78%	7	0.1%

12.4 Data Verification of Historic Assays

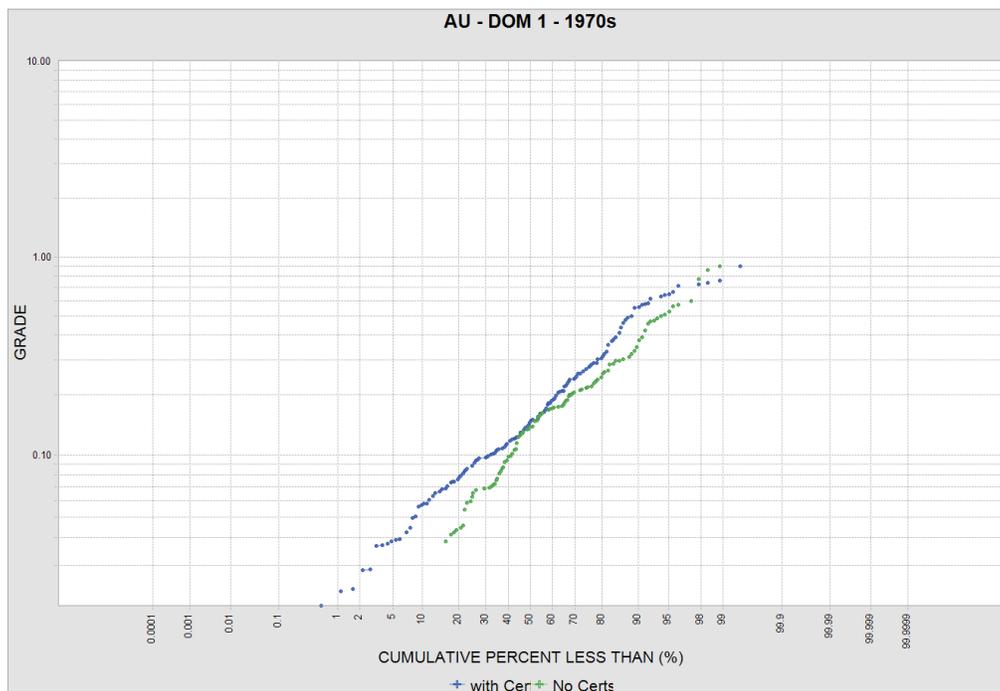
Data validation has been completed for historic data that does not have certificates or QA/QC available for Hushamu and Red Dog. Northwest Expo has no certificates available only for the 2008 data which represents a small portion of the sample data at Northwest Expo.

In order to validate the 2008 data without assay certificates or QA/QC, the assay results have been compared to the assays of recent drilling and re-assayed data which has certificates and QA/QC. In order to ensure that spatial variations in the mineralization are removed as much as possible for this

comparison, a statistical method commonly called “Point Validation” or “Bootstrapping” has been used. The grade value at the locations of the data to be validated is interpolated into this location using any data except the data to be validated. For this comparison, composited data within 50m of the location of the validation point has been used with the modelling interpolation parameters to predict the grade at the location of the historic data point. Although this will cause smoothing of the validation data, there should be no overall bias, and the means and medians of the data should be similar or lower for the historic data. The “Point Validation” results are summarized for each deposit in the sub-sections below.

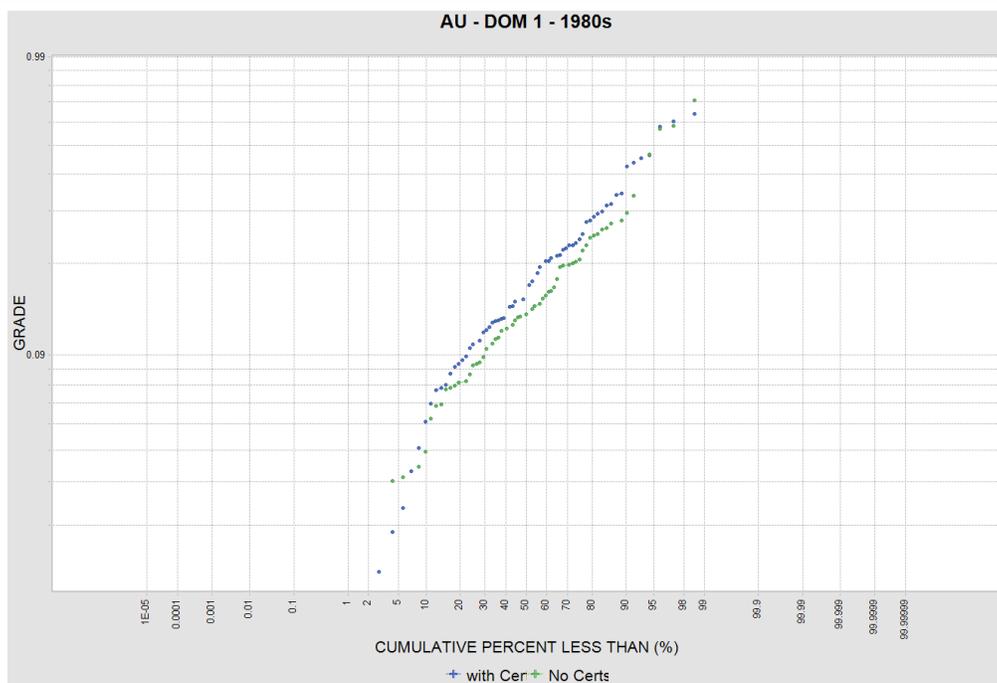
12.4.1 Hushamu – Historic Drilling Validation

The cumulative probability plots (CPPs) below illustrate this comparison at Hushamu in Figure 12-1 through Figure 12-3 for Au, and for Cu in Figure 12-4 through Figure 12-6.



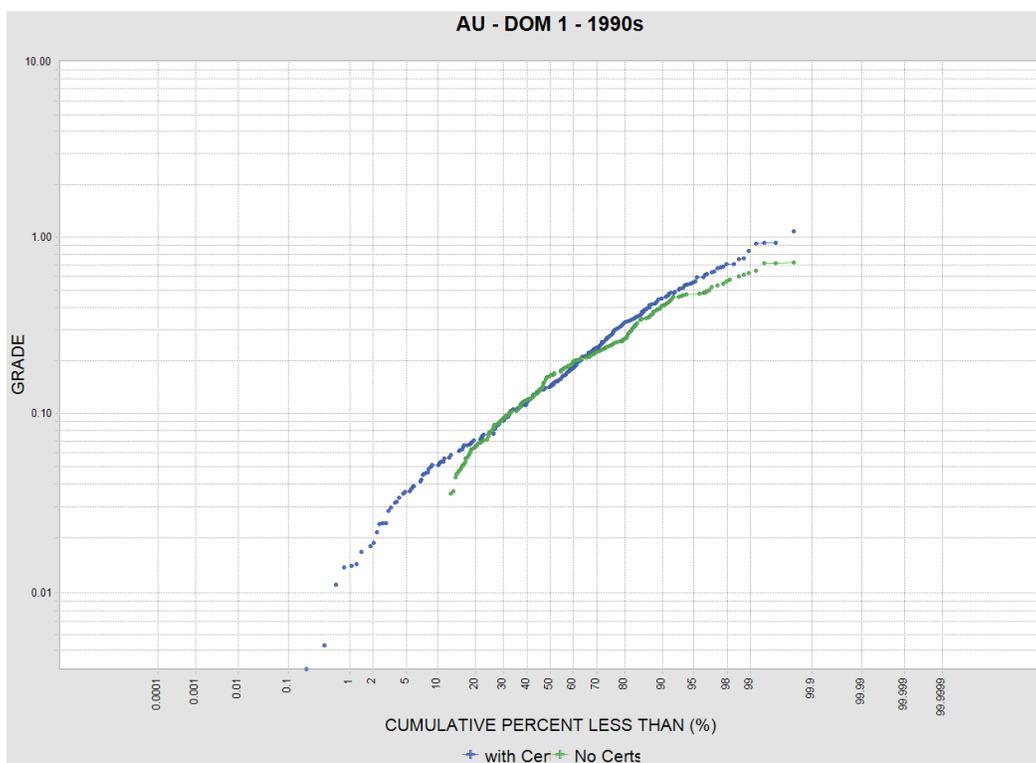
(Source: MMTS, 2024)

Figure 12-1 Comparison of Au Assays with and without Certificates for Hushamu - 1970s



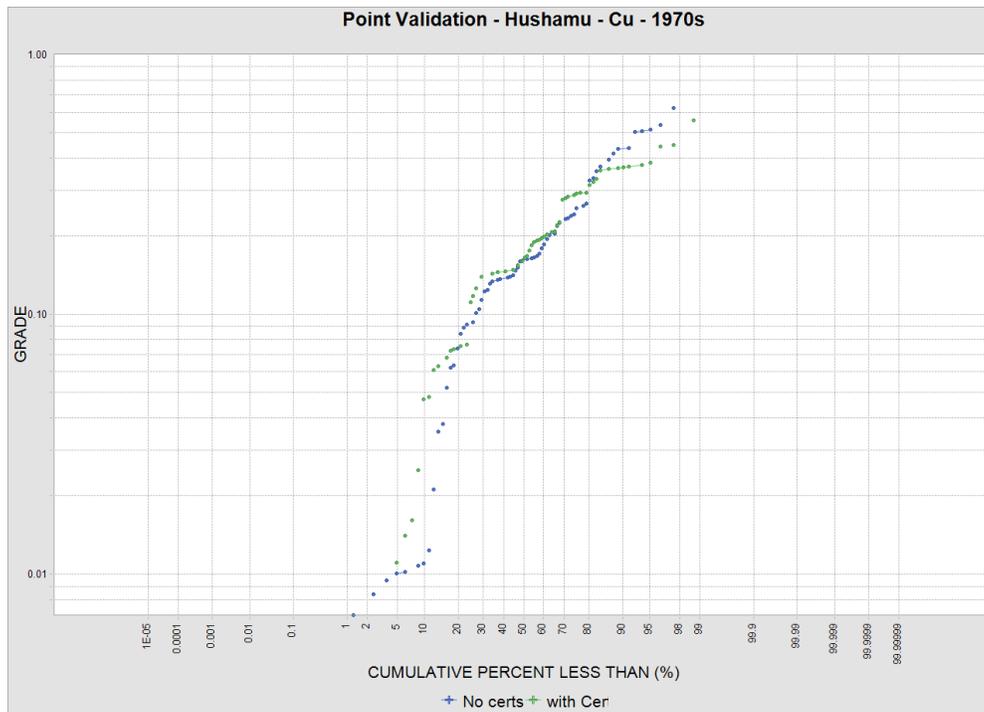
(Source: MMTS, 2024)

Figure 12-2 Comparison of Au Assays with and without Certificates for Hushamu - 1980s



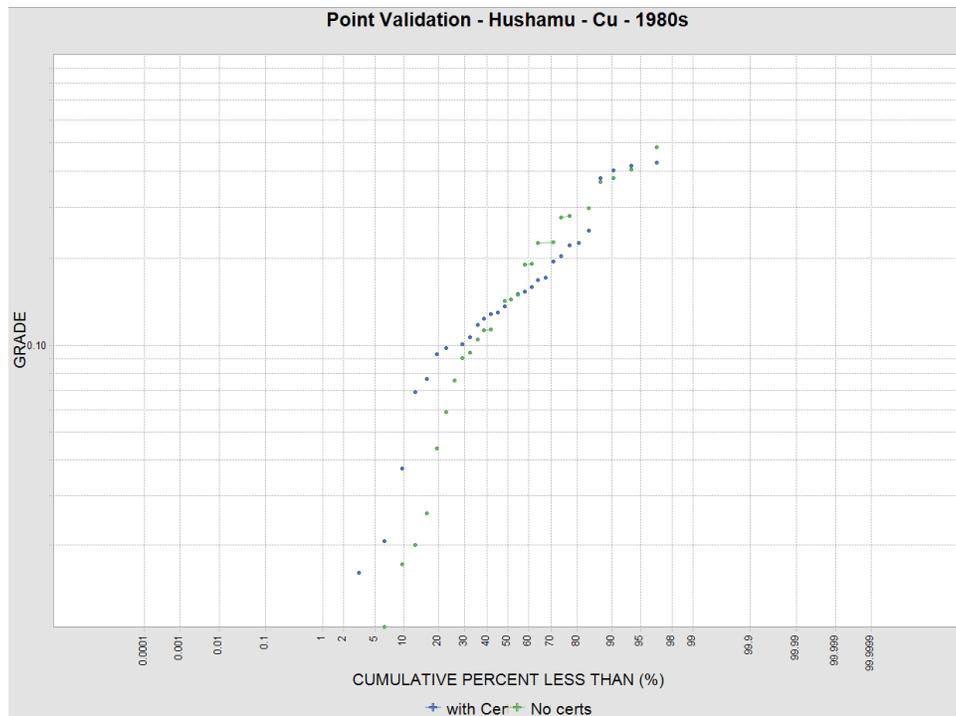
(Source: MMTS, 2024)

Figure 12-3 Comparison of Au Assays with and without Certificates for Hushamu - 1990s



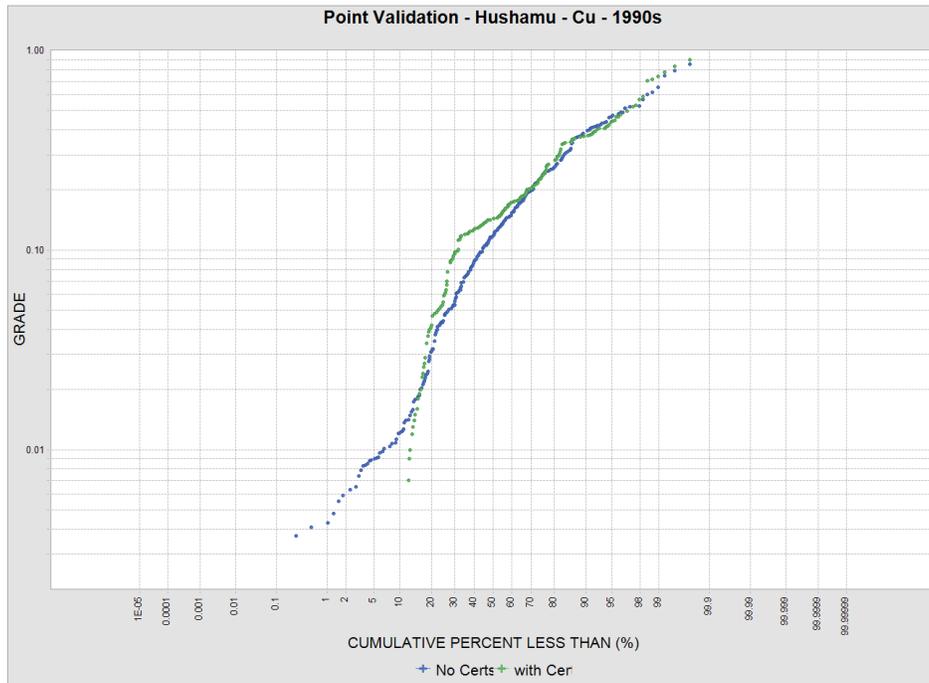
(Source: MMTS, 2024)

Figure 12-4 Comparison of Cu Assays with and without Certificates for Hushamu - 1970s



(Source: MMTS, 2024)

Figure 12-5 Comparison of Cu Assays with and without Certificates for Hushamu - 1980s

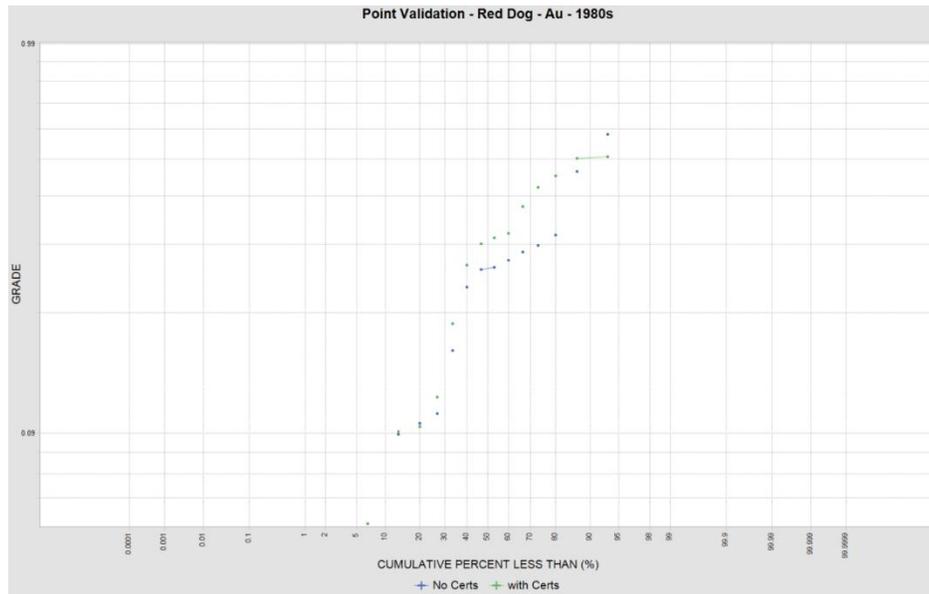


(Source: MMTS, 2024)

Figure 12-6 Comparison of Cu Assays with and without Certificates for Hushamu - 1990s

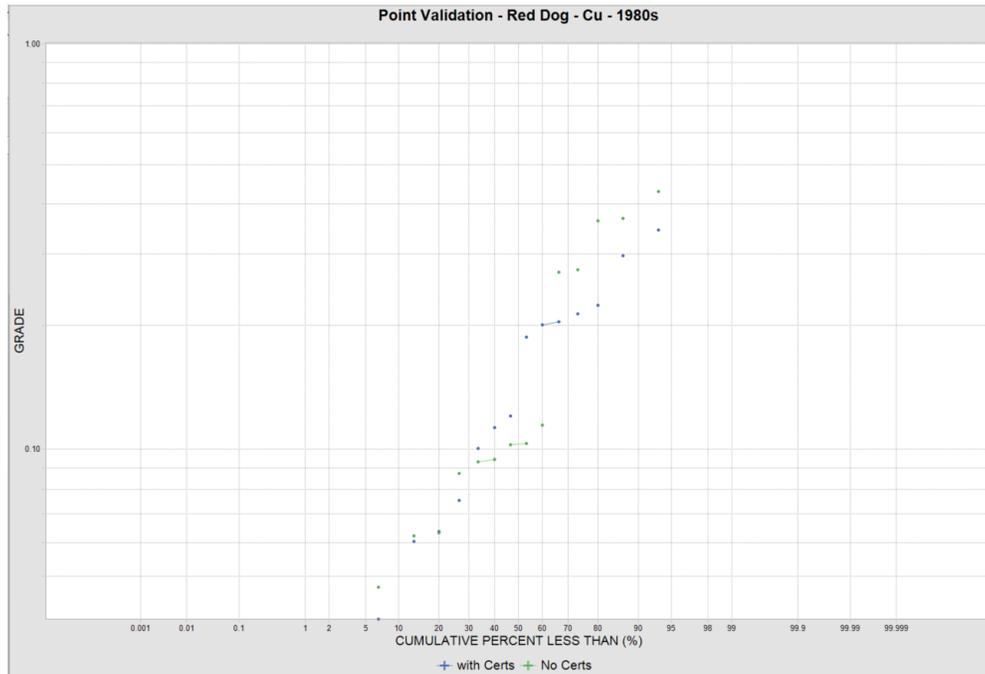
12.4.2 Red Dog – Historic Drilling Validation

The cumulative probability plots (CPPs) below illustrate this comparison for Au at Red Dog in Figure 12-7 and Figure 12-8 for Cu.



(Source: MMTS, 2024)

Figure 12-7 Comparison of Au Assays with and without Certificates for Red Dog - 1980s – 1990s



(Source: MMTS, 2024)

Figure 12-8 Comparison of Cu Assays with and without Certificates for Red Dog – 1980s - 1990s

13.0 Mineral Processing and Metallurgical Testing

13.1 Metallurgical Testing

Seven metallurgical test programs have been conducted on zones of the North Island Project. These programs have documented sample locations from Hushamu, Red Dog and Northwest Expo zones. Table 13-1 displays a summary of the test programs used for this assessment.

Table 13-1 Summary of Metallurgical Programs

Date	Title	Laboratory/ Project No.	No. of Samples	Test Description
July 4, 1989	Metallurgical Investigation of Red Dog Property Progress Report	Bacon, Donaldson & Associates Ltd. M89-127	6 samples	Rougher Flotation
Dec. 18, 2012	Pre-Feasibility Metallurgical Study of the Island Copper Deposit – prepared for Western Copper and Gold Corporation	ALS Metallurgy Kamloops KM3409	2 composites	SMC, Bond Ball Rougher, Cleaner & Locked Cycle Flotation, Cyanide Leach Pyrite concentrate
May 24, 2013	Preliminary Assessment of the NorthIsle Copper and Gold Inc.	ALS Metallurgy Kamloops KM3695	5 composites	Rougher Flotation
Mar. 2, 2016	Metallurgical Assessment of North Island Project – prepared for NorthIsle Copper and Gold Inc.	Base Metallurgical Laboratories Ltd. BL0059	2 composites	Bond Ball Rougher, Cleaner & Locked Cycle Flotation, Cyanide Leach Pyrite concentrate
Feb. 2, 2017	Preliminary Metallurgical Assessment of the Red Dog Project – prepared for NorthIsle Copper and Gold Inc.	Base Metallurgical Laboratories Ltd. BL0137	1 composite	Bond Ball Rougher & Cleaner Flotation, Cyanide Leach Pyrite concentrate
Dec. 1, 2020	The mineralogy and Flotation on samples from the North Island Copper and Gold deposit	SGS Minerals, Vancouver	3 composites	Rougher, Cleaner & Locked Cycle Flotation, Cyanide Leach Pyrite concentrate
In progress 2024	Metallurgical Testing on samples from the Northwest Expo and Hushamu Deposits	Base Metallurgical Laboratories Ltd. BL1141	4 composites 41 variability	SMC, Bond Ball Rougher, Cleaner & Locked Cycle Flotation, Cyanide Leach tails streams

Note: Abbreviation LCT- Locked cycle test.

Metallurgical testing has focused on a flotation process developed to recover and produce a copper concentrate with by-product credits of gold, molybdenum and rhenium. Cyanide leaching of some flotation streams has been investigated to increase overall gold recoveries. Metallurgical studies were primarily conducted to develop a suitable process.

13.1.1 Metallurgical Sample Origin

The samples used for metallurgical testing were obtained from several drillholes across the project. A summary of the drillholes sampled to assemble metallurgical testing composites is presented in Table 13-2.

Table 13-2 Drillholes Sampled for Metallurgical Composites

Deposit	Drillholes	Depth Range (m)		Used in Lab Program / Year		
		From	To	ALS	SGS	Base Met
Hushamu	H-12-01, 03, 10	166	481	2012	2020	2016
	H-12-04	289	449	2012		2016
	H-12-05	164	202	2012		
	H-12-12	98	113		2020	
	H-14-05	43	160		2020	2016
	H-17-01	58	148		2020	
	H108-08	8	132		2020	
	HU21-01, 02, 03, 04	132	581			2023
	HU22-01, 02, 03, 05, 06	85	561			2023
Red Dog	RD16-01, 02, 03, 06	48	184		2020	2017
NW Expo	NW23-09, 11, 12, 13, 14	198	417			2023

The samples were mixture of quarter and half NQ and HQ drill cores. The selected intervals were shipped to each respective laboratory where the material was assembled into composites as required and prepared for testing.

13.2 Mineralogical Data

Quantitative mineralogy was performed in several programs for the Hushamu zone. A single composite sample was analyzed for the Red Dog zone. Composites of silica-clay-pyrite (SCP) and chlorite-magnetite (CMG) alteration were analyzed from the Northwest Expo zone.

13.2.1 Hushamu Mineralogy

The Hushamu deposit includes two types of mineralization based on geological classification described as SCP and CMG. Sulphide values for the SCP mineralization ranged from 17 to 19 percent while the CMG mineralization ranges from 1 to 10 percent with an average of 7 percent. The primary sulphide mineral is pyrite, and the primary copper mineral is chalcopyrite. There were trace levels of secondary enriched copper sulphides in some samples. On average, the ratio of pyrite to copper sulphides by mass was 8 to 1 based on a combination of both mineralization types.

Mineral liberation data for Hushamu material based on multiple analyses indicated that the copper sulphides were generally finely disseminated. For the SCP mineralization, copper sulphide liberation ranged from 31% at a grind size of 146 μm P₈₀ to 53% at a grind size of 93 μm P₈₀. Similarly, the copper sulphide liberation ranged from 36 to 42% at primary grind sizes of 113 and 103 μm K₈₀, respectively, for the CMG mineralization. The analyses also showed that non-liberated copper sulphides were interlocked primarily with non-sulphide gangue, although a considerable portion was present in binaries with pyrite and multiphase grains.

Quartz and clays are the major gangue minerals for SCP while quartz, clays, sericite/muscovite, chlorite, and biotite are the major gangue minerals for CMG.

13.2.2 Red Dog Mineralogy

A single mineralogical analysis was performed on the Red Dog zone using a global composite. The sample had very similar sulphide mineral content to the CMG mineralization type when compared to the Hushamu zone. Pyrite was the most abundant sulphide mineral and copper occurred principally as chalcopyrite. The pyrite to chalcopyrite ratio for the sample was 7 to 1.

The data indicated more favourable copper sulphide liberation when compared to the Hushamu deposit. At a grind size of 156mm K₈₀, copper sulphides were nearly 60 percent liberated.

13.2.3 Northwest Expo Mineralogy

Mineralogical analyses were performed on SCP and CMG composites from the Northwest Expo zone. The sample had similar host rock characteristics to the same alteration materials to the Hushamu zone. Pyrite was the most abundant sulphide mineral but was present at considerably lower levels than in Hushamu. Copper occurred primarily as chalcopyrite in the CMG composite with lesser amounts of chalcopyrite/covellite. The SCP composite contained higher levels of chalcocite/covellite. The pyrite to copper sulphide ratios for the samples averaged 6 to 1.

The data indicated similar copper sulphide liberation as the Hushamu deposit. At an average grind size of 100mm K₈₀, copper sulphides were approximately 50% percent liberated.

13.3 Comminution Results

SMC tests, which infer the resistance to impact breakage in a SAG mill, were conducted on the Hushamu and Northwest Expo samples. The average Axb values were 56 and 67 for the Hushamu and Northwest Expo samples, respectively. The results suggest that the materials are moderately soft with respect to SAG milling, as 65 to 77% of the samples in the JK Tech drop weight database are harder than these averages.

Bond ball mill work index tests were completed on samples from all deposits. The values averaged 17 kWhr/tonne, suggesting that the materials are of moderate hardness with respect to attrition grinding in a ball mill.

13.4 Flotation Results

A summary of the flotation test results is displayed in Table 13-3. Shown in the table are the relevant flotation results by composite.

Table 13-3 Summary Flotation Test Data

Program	Deposit	Comp	Feed Grade - % or g/t			PG µm P80	Test Type	Con Grade - % or g/t			Recovery %		
			Cu	Mo	Au			Cu	Mo	Au	Cu	Mo	Au
ALS Metallurgy KM3409	Hushamu	SCP	0.24	0.012	0.33	111	LCT	29	0.21	11.9	76	11	25
		CMG	0.25	0.008	0.29	129	OCC	27	0.28	15.6	78	26	39
Base Met Labs BL0059	Hushamu	SCP	0.24	0.006	0.25	100	LCT	19.2	0.77	10.4	75	66	34
		CMG	0.30	0.014	0.34	100	LCT	21.7	0.41	13.8	78	55	44
Base Met Labs BL0137	Red Dog	MC1	0.32	0.007	0.54	100	OCC	24.2	-	14.3	86	-	33
SGS 16726-01	Hushamu	SCP	0.36	0.009	0.4	100	LCT	26.4	0.15	14.9	86	19	43
		CMG	0.33	0.008	0.36	100	LCT	23.9	0.46	15.3	86	71	49
SGS 16726-01	Red Dog	Red Dog	0.33	0.004	0.51	100	LCT	26.5	0.30	24.5	90	74	53
Base Met Labs BL1141	Hushamu	SCP	0.20	0.016	0.31	200	LCT	19.7	0.72	11.1	71	33	26
		CMG	0.21	0.015	0.37	100	LCT	20.7	1.3	19.7	74	63	40
Base Met Labs BL1141	Northwest Expo	SCP	0.20	0.011	0.76	150	LCT	27.2	0.13	74.5	88	8	65
		CMG	0.13	0.003	0.98	150	LCT	18.3	0.11	119	77	22	65
		CMG	0.12	0.003	0.87	150	LCT	24.9	0.07	135	69	8	54

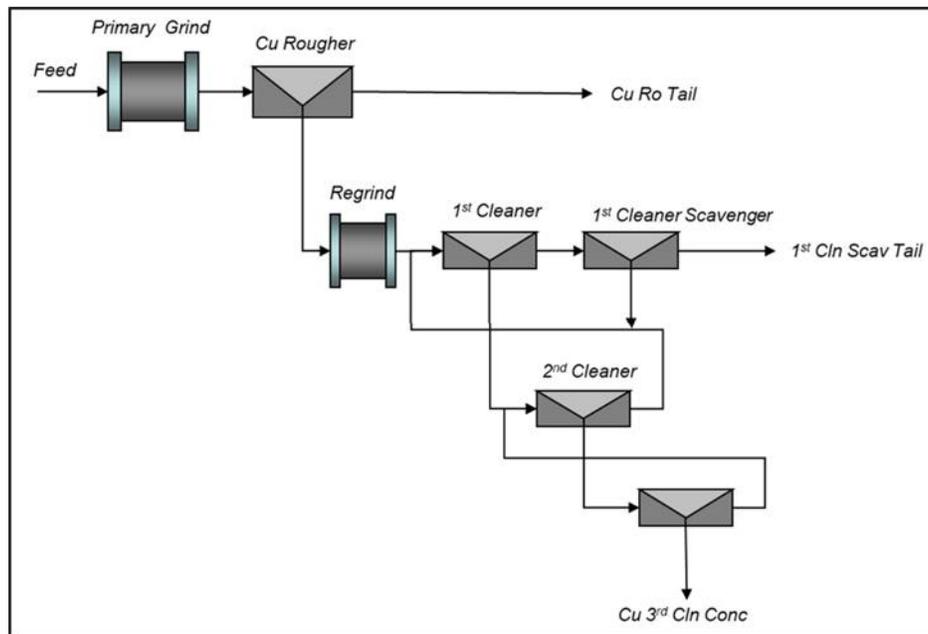
Note: LCT = Locked Cycle Test, OCC = Open Circuit Test

A simple conventional copper flotation flowsheet was used that floated all sulfides into rougher concentrate and rejected pyrite in cleaner stages. Selective pulp chemistry conditions and fine regrinding were required to reject pyrite and produce marketable copper concentrates. A typical copper flotation flowsheet was applied during most of the testing.

Primary grind sizes targeted for this test work ranged from 75 to 200µm P₈₀. The copper rougher concentrate was reground to a nominal 80% passing 20 microns with lime, cyanide, and fuel oil and followed by three stages of cleaning to produce a final copper concentrate. Figure 13-1 shows the flow sheet used for the locked cycle tests.

The copper metallurgical performance, in general, was consistent considering the diverse range in primary grind sizes tested, differing chemical conditions and varying feed grades of the samples. While the primary grind size had an inversely proportional relationship with copper recovery, large reductions in grind size were required to achieve small improvements in copper recovery.

Molybdenum was reasonably well recovered in the rougher flotation circuits, but cleaner circuit recovery was compromised by the high pH conditions required to depress pyrite.



(Source: SGS, 2020)

Figure 13-1 Schematic of Locked Cycle Test Flowsheet

A portion of the gold appeared to be associated with pyrite, which would report to the cleaner tails during pyrite rejection in the cleaner circuits.

13.4.1 Minor Element Analysis of the Concentrate

Concentrates generated from locked cycle tests in the 2020 SGS program on CMG, SCP, and Red Dog materials were analyzed for minor elements. Northwest Expo concentrates generated in the 2023 Base Met test program were also analyzed. Summarized data is presented in Table 13-4.

The concentrates were relatively low in deleterious elements. Only selenium was present in the Red Dog and Northwest Expo SCP concentrates at levels that could attract smelter penalties (>300 ppm).

Table 13-4 Minor Elements – Locked Cycle Flotation Concentrates

Element	Symbol	Unit	H-CMG	H-SCP	Red Dog	NWE-CMG	NWE-SCP
Copper	Cu	%	22.4	25.9	24.4	24.9	27.2
Gold	Au	g/t	15.1	14.5	15.6	135	74.5
Silver	Ag	g/t	22.8	17.3	19.6	83.6	14.9
Iron	Fe	%	29.3	32.4	30.8	26.1	30.5
Antimony	Sb	g/t	<20	<20	<10	9	8
Arsenic	As	g/t	<30	<30	<30	37	284
Bismuth	Bi	g/t	<200	<200	<50	<2	<2
Cadmium	Cd	g/t	20	10	2	31	7
Lead	Pb	g/t	618	95	169	1950	139
Molybdenum	Mo	%	0.477	0.143	0.285	0.063	0.132
Mercury	Hg	g/t	<0.3	-	-	<1	2
Nickel	Ni	g/t	28	<20	26	40	100
Rhenium	Re	g/t	23.4	7.3	19.2	-	-
Selenium	Se	g/t	77	115	417	221	417
Zinc	Zn	g/t	1500	1320	144	1550	670
Uranium	U	g/t	<40	<50	<40	0.7	1

13.5 Cyanide Leaching of Flotation Products

To enhance gold recovery, cyanide leaching of a pyrite-rich cleaner tailings as well as rougher tails from selected deposits was investigated. The leaching results are summarized in Table 13-5.

The Northwest Expo cleaner tails returned higher leach extractions than the Red Dog or Hushamu materials. Diagnostic leaching and mineralogy examination of the cleaner tailings stream indicated that gold was occurring as very tiny inclusions in both pyrite and non-sulphide gangue and would likely require more complicated processing methods to improve the gold extraction rates. Gold extraction from the rougher tails was generally higher, suggesting that the gold was not associated with pyrite and more accessible to the leach solution. The Hushamu rougher tails were not considered for leaching due to the low gold contents.

Table 13-5 Flotation Tailings Leach Results

Deposit	Alteration	Test Program	Rougher Tail Leach		Cleaner Tail Leach	
			hrs	Au Ext. %	hrs	Au Ext. %
Northwest Expo	CMG	BL1141	24	75.8	48	79.0
	SCP	BL1141	24	77.1	48	60.9
Red Dog	All	BL0137	24	79.9	48	44.5
Hushamu	CMG	BL1141	-	-	48	52.5
	SCP	BL1141	-	-	48	45.4

13.6 Recovery Analysis

The recent Hushamu results were analyzed along with test data from two earlier metallurgical programs (Base Met BL0059, ALS Metallurgy KM3409) which tested composites with feed grades averaging 0.25% Cu and 0.27 g/t Au. Rougher results were averaged for tests with similar feed grades, chemical conditions and primary grind size to determine expected rougher recoveries for CMG and SCP materials. Cleaner circuit recoveries were averaged from locked cycle tests on each alteration, conducted within the same test programs, and achieved final concentrate grades averaging 21% Cu. The net recoveries of rougher plus cleaner circuit were used to estimate flotation recoveries on Hushamu CMG and SCP materials.

Locked cycle test results on Northwest Expo and Red Dog materials, measured in the 2023 Base Met and 2020 SGS programs, were used for flotation recovery estimates on these materials.

Gold leaching results were then applied to the respective streams to obtain a total circuit gold recovery for each material.

It is proposed that bulk copper concentrate generated from Hushamu material would be processed through a Cu-Mo separation circuit to recovery a molybdenum concentrate. No Cu-Mo separation circuit testing has been completed to demonstrate the metallurgical performance of this process, however Mo recovery of 90% across the circuit has been estimated as a reasonable industry standard for porphyry Cu-Mo deposits. Rhenium is expected to be associated with molybdenite, therefore Re recovery to the final Mo concentrate is expected match molybdenum recovery. An additional 90% factor is applied to the final Re recovery to reflect downstream processing losses. The molybdenum contents of the Northwest Expo and Red Dog bulk concentrates are lower than Hushamu, so bulk copper concentrates from these deposits are not considered for Cu-Mo separation processing at this time.

The resulting recovery estimates are summarized in Table 13-6.

Table 13-6 Total Circuit Recovery Estimates

Deposit		Hushamu		Northwest Expo		Red Dog
Alteration		CMG	SCP	CMG	SCP	All
Flotation Recovery to Bulk Con	Cu %	77.8	75.4	72.7	87.7	89.7
	Mo %	54.6	49.5	-	-	-
	Au %	44.5	31.8	59.3	64.8	52.8
Au department to Cleaner Tail	Au %	27.9	49.7	16.7	17.7	17.1
Au department to Rougher Tail	Au %	27.6	18.5	24	20.3	30.1
Au Extraction Cleaner Tail	Au %	52.5	45.4	79	60.9	44.5
Au Extraction Rougher Tail	Au %	-	-	75.8	77.1	79.9
Cu-Mo Separation - Mo Recovery	Mo %	90	90	-	-	-
Net Process Recovery	Cu %	77.8	75.4	72.7	87.7	89.7
	Mo %	49.2	44.6	-	-	-
	Au %	59.2	54.3	90.7	91.2	84.5

14.0 Mineral Resource Estimates

The Mineral Resource estimate for the North Island Project has an effective date of September 23, 2024. The resource estimate was prepared by Sue Bird, P.Eng., of MMTS.

14.1 Mineral Resource Estimate

The North Island Project total Mineral Resource Estimate is summarized in Table 14-1 for a series of NSR cutoffs with the base case cutoff highlighted. Table 14-2 through Table 14-4 show the resource estimates for each individual project. Mineral Resources were estimated using the 2019 CIM Best Practice Guidelines and are reported using the 2014 CIM Definition Standards.

The MRE utilizes pit shells to constrain resources at the Hushamu, Northwest Expo and Red Dog gold-copper deposits. No underground extraction is considered for these deposits in this resource estimate. The current estimate has been produced with updated metal prices of US\$1,910/oz gold, US\$4.00/lb copper, US\$21/oz molybdenum and US\$1,777/kg rhenium, updated recoveries, smelter terms, and costs, relative to previous estimates, as summarized in the notes to Table 1-1. Metal prices have been chosen based partially on market research and on comparison to prices as quoted in numerous NI 43-101 reports for Au, Cu Mo, and Re. The metal prices chosen also considered the spot prices and the three-year trailing average prices. For all four metals, the final prices used for this resource estimate are below both the spot metal price and the three-year trailing average.

Base case cut-off grades for open pit mining are based on Processing plus G&A costs of CDN\$11.50/tonne processed. The Processing Cost only is \$10.00/tonne and is also summarized in the tables. This is the marginal internal cutoff and does not include mining costs.

There is a 1.0% NSR royalty modelled for the Red Dog deposit only. The other deposits do not have any royalties or other encumbrances that are relevant for resource modelling.

These mineral resource estimates include inferred mineral resources that are considered too speculative geologically to have economic considerations applied to them that would enable them to be categorized as mineral reserves. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

The QP is of the opinion that issues relating to all relevant technical and economic factors likely to influence the prospect of economic extraction can be resolved with further work. These factors may include environmental permitting, infrastructure, sociopolitical, marketing, or other relevant factors.

Table 14-1 Mineral Resource Estimate for the North Island Project

Class	NSR Cutoff (\$CDN/tonne)	In Situ Tonnage and Grade						Cu Metal (Mlbs)	Au Metal (kOz)	Mo Metal (Mlbs)	Re Metal (klbs)	CuEq Metal (Mlbs)	NSR (\$CDN/tonne)
		Tonnage (ktonnes)	Cu (%)	Au (gpt)	Mo* (ppm)	Re* (ppm)	CuEq (%)						
Indicated	10	968,402	0.15	0.23	75	0.43	0.31	3,183	7,163	160	908	6,520	\$ 24.53
	11.5	905,922	0.16	0.24	75	0.42	0.32	3,107	6,939	149	847	6,330	\$ 25.48
	15	736,243	0.17	0.26	73	0.42	0.35	2,830	6,215	119	676	5,692	\$ 28.29
	20	508,221	0.20	0.31	71	0.40	0.41	2,279	5,018	79	445	4,579	\$ 33.18
	25	336,105	0.23	0.36	67	0.37	0.47	1,719	3,894	49	273	3,511	\$ 38.73
	30	221,789	0.26	0.42	63	0.34	0.54	1,259	2,985	31	166	2,652	\$ 44.59
	35	148,701	0.28	0.48	57	0.31	0.61	911	2,310	19	102	2,009	\$ 50.63
Inferred	10	233,749	0.12	0.21	53	0.31	0.27	602	1,581	27	161	1,381	\$ 21.59
	11.5	213,878	0.12	0.22	52	0.31	0.28	571	1,525	24	147	1,320	\$ 22.58
	15	156,463	0.13	0.26	52	0.31	0.32	455	1,310	18	109	1,104	\$ 25.96
	20	78,849	0.14	0.36	46	0.29	0.42	252	920	8	51	727	\$ 34.43
	25	41,109	0.14	0.51	25	0.16	0.54	128	675	2	14	493	\$ 45.72
	30	27,885	0.13	0.63	10	0.07	0.65	82	562	1	4	397	\$ 54.63
	35	21,542	0.13	0.72	2	0.01	0.73	63	496	0	0	345	\$ 61.16

*Mo and Re given value only at Hushamu

Notes to Table 14-1 through 14-4:

- Mineral resources are not mineral reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the mineral resources will be converted into mineral reserves.
- Resources are reported using the 2014 CIM Definition Standards and were estimated using the 2019 CIM Best Practices Guidelines.
- The Mineral Resources have been confined by an open pit with "reasonable prospects of eventual economic extraction" using the 125% pit case and the following assumptions:
 - Metal prices of US\$1,910/oz Au, US\$4.00/lb Cu, US\$21/lb Mo, and US\$1,777/kg Re;
 - Forex of 1.32 \$CDN:\$US
 - Payable metal of 97% payable Au for Northwest Expo and Red Dog and 92% payable Au for Hushamu, Payable of 96.5% for Cu, and 98% payable Mo applicable to Hushamu only.
 - Refining Costs for Au of US\$5.00/oz, refining for Cu of US\$0.075/lb and for Mo of US\$1.30/lb
 - Smelting costs for Cu of US\$75.00/dmt
 - Transportation and insurance costs of CDN\$85/wmt proportionally distributed between Au, and Cu, and Mo;
 - Royalty of 1% NSR for Red Dog
 - Pit slopes are 48 degrees;
 - Mining cost of C\$3.00/t for waste and mineralized material; and
 - Processing, general and administrative costs of C\$11.50/t.
- Metallurgical recoveries for Au are: 91% for Au for Northwest Expo, 85% for Red Dog, 59% for Hushamu in the CMG and 54% outside the CMG
- Metallurgical recoveries for Cu are 73% for Northwest Expo within the CMG and 88% outside CMG, 89.7% at Red Dog and 77.8% at Hushamu within the CMG and 75.4% outside the CMG.
- Metallurgical recovery for Mo is 49% at Hushamu within the CMG and 45% outside the CMG
- Metallurgical recovery for Re is 39.3% within the CMG and 35.7% outside the CMG and not considered payable for the other deposits.
- The NSR is calculated as follows:
 - Hushamu chlorite-magnetite ("CMG"):
$$\text{NSR}(\$ / \text{t}) = (\text{Cu}(\%) * 77.8\% * \$4.72 * 2204.62) + (\text{Au}(\text{gpt}) * 59\% * \$70.35 / \text{g}) + (\text{Mo}(\%) * 49\% * \$25.32 * 2204.62) + (\text{Re}(\%) * 39.3\% * \$530.29 * 2204.6)$$
 - Hushamu non-CMG (based on silica-clay-pyrite ("SCP") and applied to all other domains):
$$\text{NSR}(\text{C} \$ / \text{t}) = (\text{Cu}(\%) * 75.4\% * \$4.70 * 2204.62) + (\text{Au}(\text{gpt}) * 54\% * \$70.01 / \text{g}) + (\text{Mo}(\%) * 45\% * \$25.32 * 2204.62) + (\text{Re}(\%) * 35.7\% * \$530.29 * 2204.6)$$

- Northwest Expo CMG: $NSR(\$ / t) = (Cu(\%) * 73\% * \$4.89 * 2204.62) + (Au(gpt) * 91\% * \$76.85 / g)$
 - Northwest Expo non-CMG: $NSR(\$ / t) = (Cu(\%) * 88\% * \$4.91 * 2204.62) + (Au(gpt) * 91\% * \$77.06 / g)$
 - Red Dog: $NSR(\$ / t) = (Cu(\%) * 89.7\% * \$4.72 * 2204.62) + (Au(gpt) * 85\% * \$74.08 / g)$
9. Copper Equivalents are calculated as follows:
- Northwest Expo CMG: $Cu Eq. = Cu + Au * 0.888$; Non-CMG: $Cu Eq. = Cu + Au * 0.737$
 - Red Dog: $Cu Eq. = Cu + Au * 0.675$
 - Hushamu CMG: $Cu Eq. = Cu + Au * 0.512 + Mo * 0.00034 + Re * 0.00567$; Non-CMG: $Cu Eq. = Cu + Au * 0.484 + Mo * 0.00032 + Re * 0.00534$
10. Gold Equivalent for Northwest Expo is calculated as follows: CMG: $Au Eq. = Au + 1.126 * Cu\%$; Non-CMG $Au Eq. = Au + 1.358 * Cu\%$
11. The specific gravity for each deposit and domain ranges from 2.62-2.86 depending on alteration AND is assumed to be 1.5 in overburden.
12. Numbers may not add due to rounding.

Table 14-2 Mineral Resource Estimate for Hushamu

Class	NSR Cutoff (\$CDN/tonne)	In Situ Tonnage and Grade							Au Metal (kOz)	Cu Metal (Mlbs)	AuEq Metal (kOz)	CuEq Metal (Mlbs)
		Tonnage (ktonnes)	NSR (\$CDN/tonne)	Au (gpt)	Cu (%)	Mo (ppm)	Re (ppm)	AuEq (gpt)				
Indicated	10	837,870	\$ 22.12	0.206	0.148	87	0.492	0.566	5,544	2,736	15,244	5,218
	11.5	777,749	\$ 23.00	0.213	0.155	87	0.494	0.588	5,326	2,663	14,701	5,034
	15	615,819	\$ 25.56	0.234	0.177	88	0.498	0.652	4,631	2,396	12,901	4,420
	20	403,021	\$ 29.87	0.271	0.211	89	0.501	0.758	3,506	1,875	9,824	3,371
	25	247,197	\$ 34.63	0.312	0.249	91	0.501	0.875	2,480	1,355	6,954	2,390
	30	149,477	\$ 39.41	0.352	0.287	93	0.505	0.992	1,694	944	4,768	1,641
	35	90,472	\$ 44.05	0.393	0.323	94	0.511	1.106	1,143	645	3,218	1,109
Inferred	10	187,107	\$ 17.09	0.152	0.122	66	0.389	0.449	912	502	2,698	910
	11.5	168,459	\$ 17.77	0.159	0.127	66	0.395	0.466	860	472	2,526	852
	15	115,696	\$ 19.78	0.179	0.141	70	0.425	0.519	664	361	1,931	650
	20	44,889	\$ 23.62	0.216	0.168	81	0.513	0.618	312	166	892	301
	25	11,548	\$ 27.96	0.269	0.193	88	0.569	0.726	100	49	270	91
	30	2,208	\$ 33.38	0.332	0.211	129	0.896	0.849	24	10	60	21
	35	439	\$ 39.68	0.388	0.281	77	0.474	1.011	5	3	14	5

Table 14-3 Mineral Resource Estimate for Northwest Expo

Class	NSR Cutoff (\$CDN/tonne)	In Situ Tonnage and Grade						Au Metal (kOz)	Cu Metal (Mlbs)	AuEq Metal (kOz)
		Tonnage (ktonnes)	NSR (\$CDN)	Au (gpt)	Cu (%)	AuEq (gpt)	CuEq (%)			
Indicated	10	45,463	\$ 53.75	0.640	0.108	0.768	0.646	935	108	1,123
	11.5	45,044	\$ 54.15	0.645	0.109	0.774	0.651	933	108	1,120
	15	43,771	\$ 55.34	0.659	0.111	0.791	0.665	927	107	1,113
	20	41,438	\$ 57.47	0.684	0.115	0.821	0.692	911	105	1,094
	25	38,602	\$ 60.02	0.715	0.120	0.858	0.724	887	102	1,064
	30	35,182	\$ 63.17	0.753	0.126	0.903	0.763	852	98	1,021
	35	31,459	\$ 66.80	0.798	0.133	0.955	0.809	807	92	965
Inferred	10	36,438	\$ 44.10	0.523	0.087	0.630	0.516	612	70	738
	11.5	35,611	\$ 44.88	0.532	0.089	0.641	0.525	609	69	734
	15	32,813	\$ 47.57	0.565	0.094	0.680	0.558	596	68	717
	20	28,727	\$ 51.84	0.617	0.101	0.741	0.610	570	64	684
	25	25,349	\$ 55.78	0.666	0.108	0.797	0.659	543	60	649
	30	22,364	\$ 59.55	0.713	0.114	0.851	0.707	512	56	612
	35	19,333	\$ 63.81	0.766	0.121	0.912	0.762	476	52	567

Table 14-4 Mineral Resource Estimate for Red Dog

Class	NSR Cutoff (\$CDN/tonne)	In Situ Tonnage and Grade						Au Metal (kOz)	Cu Metal (Mlbs)	AuEq Metal (kOz)
		Tonnage (ktonnes)	NSR (\$CDN/tonne)	Au (gpt)	Cu (%)	AuEq (gpt)	CuEq (%)			
Indicated	10	85,069	\$ 32.63	0.250	0.181	0.518	0.349	684	339	1,417
	11.5	83,129	\$ 33.14	0.254	0.184	0.526	0.354	679	336	1,407
	15	76,653	\$ 34.81	0.267	0.193	0.553	0.372	657	326	1,362
	20	63,762	\$ 38.30	0.293	0.213	0.608	0.410	600	299	1,247
	25	50,306	\$ 42.54	0.326	0.236	0.675	0.455	527	262	1,092
	30	37,130	\$ 47.85	0.368	0.264	0.760	0.512	440	216	907
	35	26,770	\$ 53.85	0.418	0.295	0.855	0.576	360	174	736
Inferred	10	10,204	\$ 23.66	0.175	0.136	0.376	0.253	57	30	123
	11.5	9,808	\$ 24.18	0.179	0.138	0.384	0.259	56	30	121
	15	7,954	\$ 26.69	0.196	0.154	0.424	0.286	50	27	108
	20	5,233	\$ 31.57	0.226	0.186	0.501	0.338	38	21	84
	25	4,212	\$ 33.84	0.239	0.201	0.537	0.362	32	19	73
	30	3,313	\$ 35.55	0.246	0.215	0.565	0.380	26	16	60
	35	1,770	\$ 37.60	0.257	0.230	0.597	0.402	15	9	34

14.2 Key Assumptions and Data used in the Estimate

The total North Island Project area comprises a database of 250 drillholes totaling more than 70,000m with 182 drillholes and 53,200m of assayed length within the three deposit block models.

A summary of the drillholes within each of the North Island Project block model areas is provided in Table 14-5 through Table 14-7. Northwest Expo drilling shows lower length percentage assayed for the 2023 drilling due to several deep holes that went through known un-mineralized material.

Table 14-5 Summary of Hushamu Drillhole Data within Block Model

Year	# Drillholes	Total length Drilled (m)	# Intervals Assays	Sum of Intervals Assayed (m)	% Assayed	Certificates - Au	Certificates - Cu	Certificates - Mo
1968	4	328.6	92.0	303.6	92%	0	0	0
1969	9	872.6	276.0	872.6	100%	0	0	0
1971	6	1,077.2	364.0	1,072.0	100%	69	0	0
1972	7	983.0	264.0	983.0	100%	0	0	0
1973	17	2,823.7	789.0	2,814.5	100%	0	0	0
1974	19	3,884.7	1,196.0	3,871.3	100%	0	0	0
1976	2	235.2	49.0	235.2	100%	0	0	0
1977	3	489.7	82.0	337.9	69%	0	0	0
1982	3	453.3	142.0	453.1	100%	0	0	0
1985	2	609.0	260.0	584.9	96%	0	0	0
1988	5	762.6	310.0	744.1	98%	0	0	0
1990	18	5,717.1	1,915.0	5,707.8	100%	0	0	2
1991	11	4,070.0	1,343.0	4,069.9	100%	0	0	0
1992	7	1,695.3	557.0	1,674.3	99%	0	0	0
1994	4	972.0	313.0	972.0	100%	0	0	0
2005	5	1,225.0	345.0	982.8	80%	345	345	345
2008	2	513.4	250.0	498.1	97%	250	250	250
2012	18	5,436.7	2,146.0	5,228.9	96%	2,146	2,146	2,146
2014	5	1,799.4	592.0	1,731.3	96%	592	592	592
2017	5	1,556.0	504.0	1,467.1	94%	504	504	504
2021	4	2,162.4	882.0	2,144.0	99%	882	882	882
2022	6	2,801.5	1,175.0	2,774.2	99%	1,175	1,175	1,175
Grand Total	162	40,468.3	13,846.0	39,522.4	98%	5,963	5,894	5,896

Table 14-6 Summary of Northwest Expo Drillhole Data within Block Model

Year	# Drillholes	Total length Drilled (m)	# Intervals Assays	Sum of Intervals Assayed (m)	% Assayed
2005	7	2,828.3	886	2,416.2	85%
2008	4	2,137.6	1,045	2,088.8	98%
2021	3	1,532.2	667	1,517.8	99%
2023	16	7,839.0	2,175	5,726.4	73%
Grand Total	30	14,337.0	4,773	11,749.1	82%

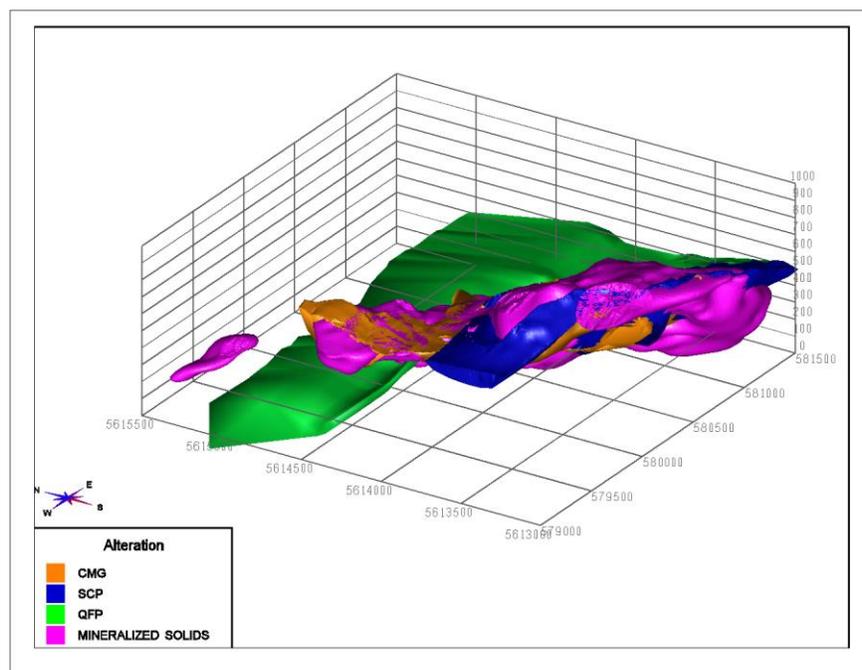
Table 14-7 Summary of Red Dog Drillhole Data within Block Model

Year	# Drillholes	Total length Drilled (m)	# Intervals Assays	Sum of Intervals Assayed (m)	% Assayed	Certificates - Au	Certificates - Cu
1982	6	715.1	221.0	659.0	92%	0	0
1983	10	1,726.6	518.0	1,522.4	88%	0	0
1988	4	1,012.9	325.0	996.7	98%	0	0
1989	3	294.1	69.0	167.0	57%	0	0
1990	10	1,687.6	511.0	1,639.9	97%	0	0
1991	8	1,240.3	356.0	1,196.5	96%	33	33
2016	6	988.1	481.0	965.9	98%	481	481
2017	1	290.0	102.0	224.0	77%	102	102
2021	2	897.0	406.0	870.5	97%	406	406
Grand Total	50	8,851.5	2,989.0	8,241.8	93%	1,022	1,022

14.3 Geologic Modelling

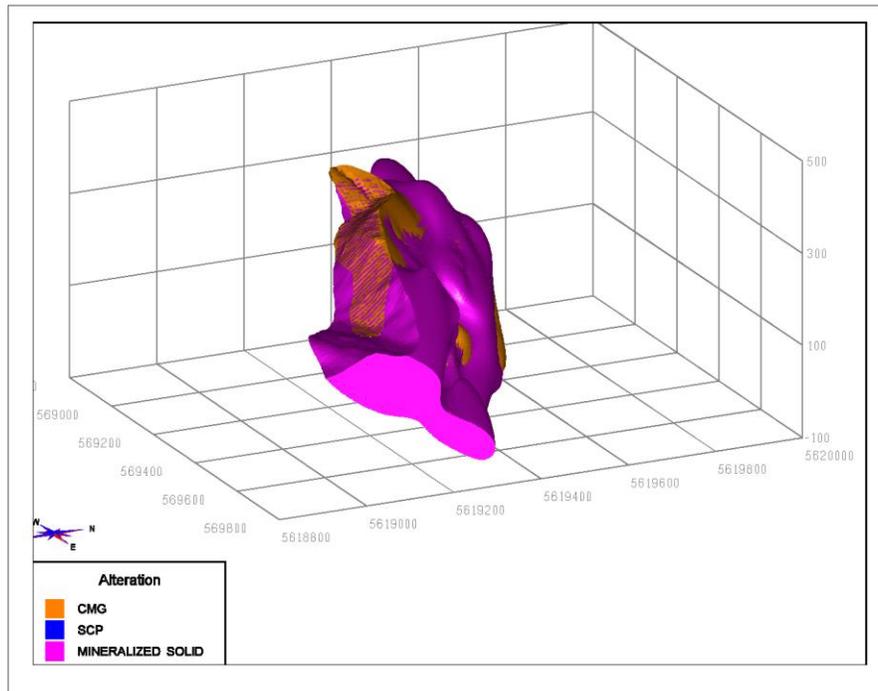
Three-dimensional wireframe solids based on geology have been used to constrain the grade interpolations.

At each deposit, three-dimensional solids have been created of the alteration/lithologies to aid in the orientation and extent of the mineralized domains. At Hushamu, three dimensional solids of the alteration and quartz-feldspar-porphyry (QFP) have been created based on the logged geology. A three-dimensional view looking northeast of the Hushamu domains is illustrated in Figure 14-1, also showing the resource pit for reference. Figure 14-2 illustrates the alterations and mineralized domain for Northwest Expo, with Figure 14-3 illustrating the alterations and domains for Red Dog and plotting the resource pit in each case.



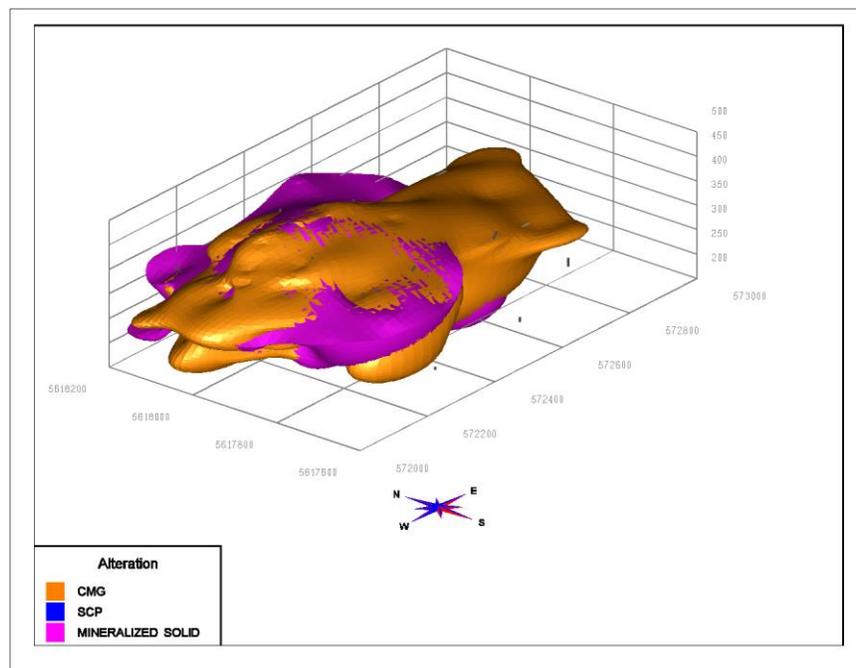
(Source: MMTS, 2024)

Figure 14-1 Hushamu Deposit – Alteration and Mineralized Domain



(Source: MMTS, 2024)

Figure 14-2 Northwest Expo Deposit – Alteration and Mineralized Domain

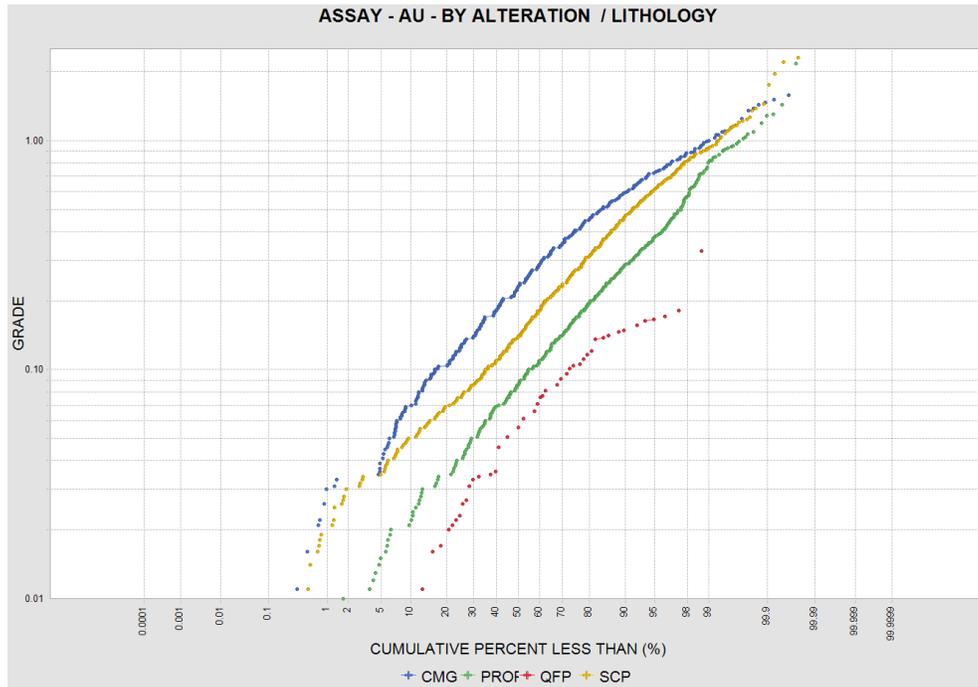


(Source: MMTS, 2024)

Figure 14-3 Red Dog – Alteration and Mineralized Domain

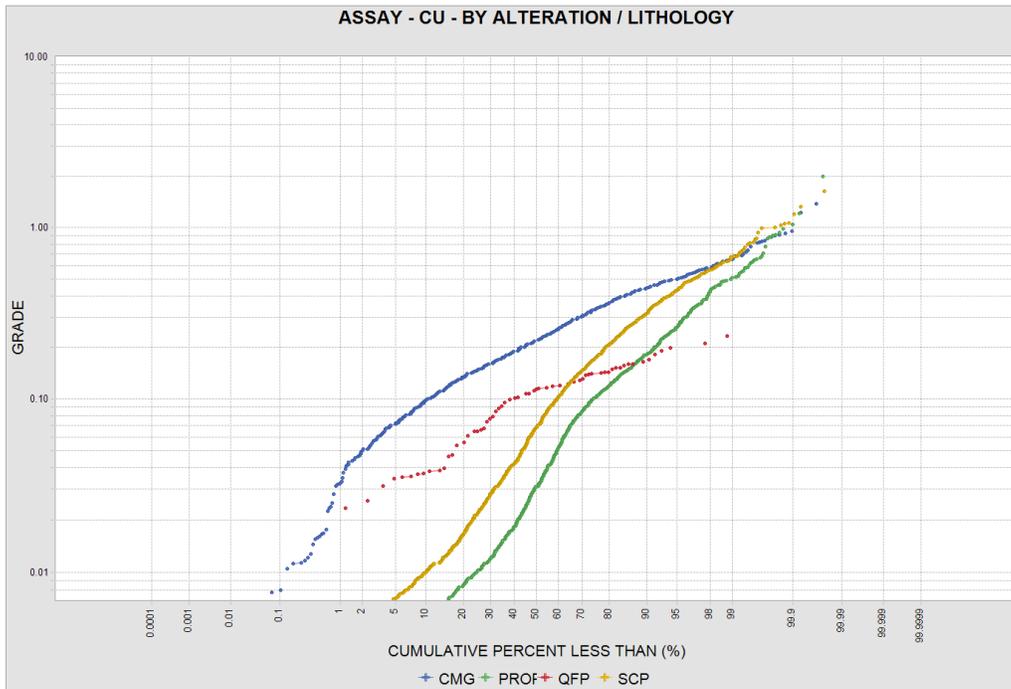
14.4 Capping

Cumulative probability plots (CPP) are used to define capping values and potential outlier restrictions during interpolations. Figure 14-4 and Figure 14-5 show the CPP plots for Au and Cu respectively for Hushamu. Figure 14-6 and Figure 14-7 show the CPP plots for Au and Cu respectively for Northwest Expo and Figure 14-8 and Figure 14-9 are the CPPs for Red Dog for Au and Cu respectively.



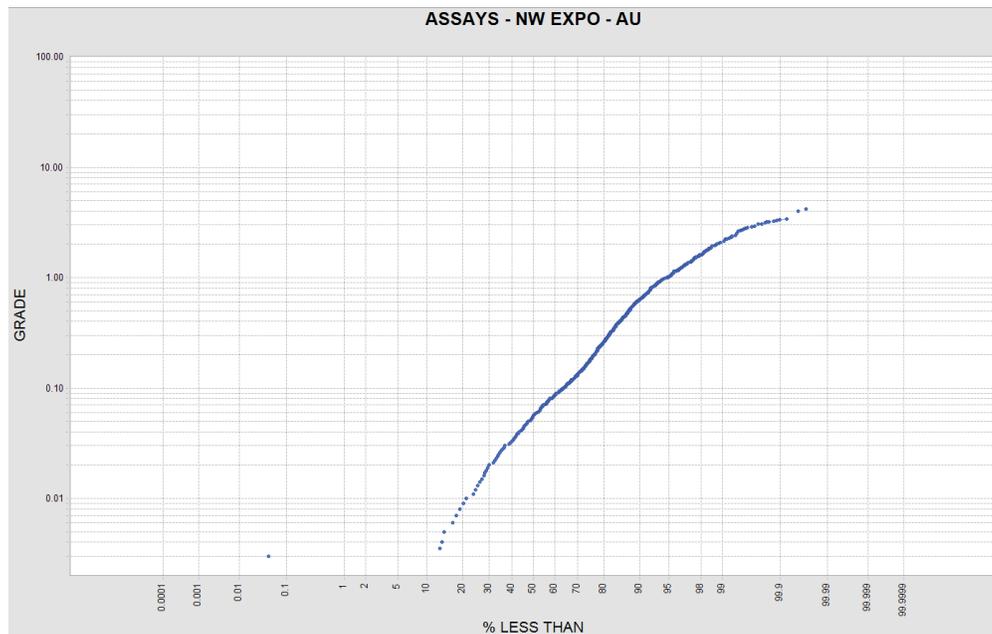
(Source: MMTS, 2024)

Figure 14-4 CPP of Au Assay Data by Domain – Hushamu



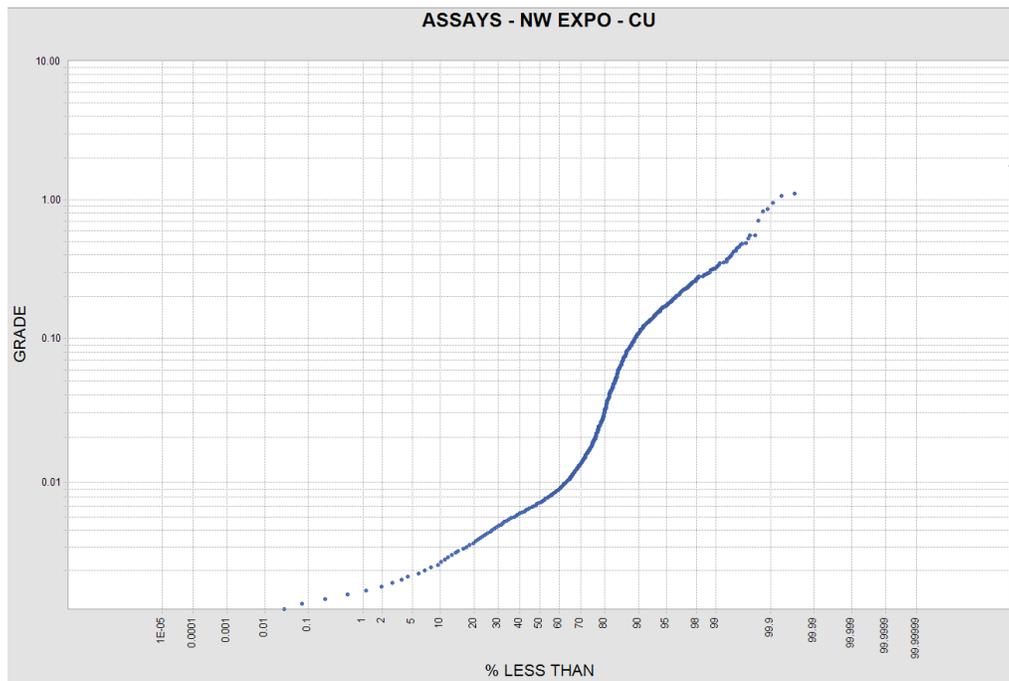
(Source: MMTS, 2024)

Figure 14-5 CPP of Cu Assay Data by Domain – Hushamu



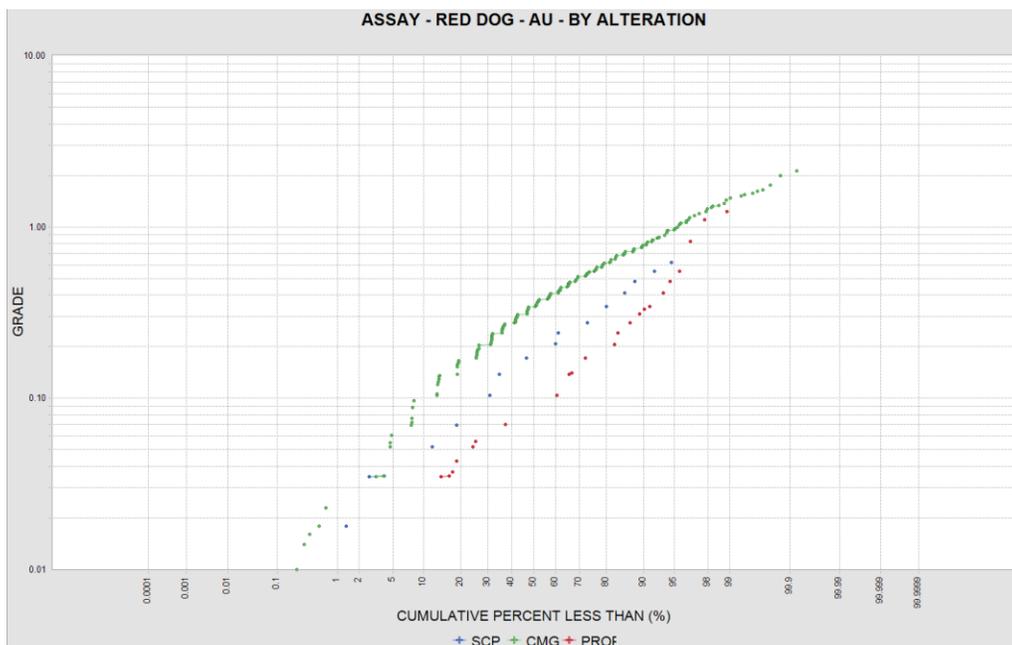
(Source: MMTS, 2024)

Figure 14-6 CPP of Au Assay Data by Domain – Northwest Expo



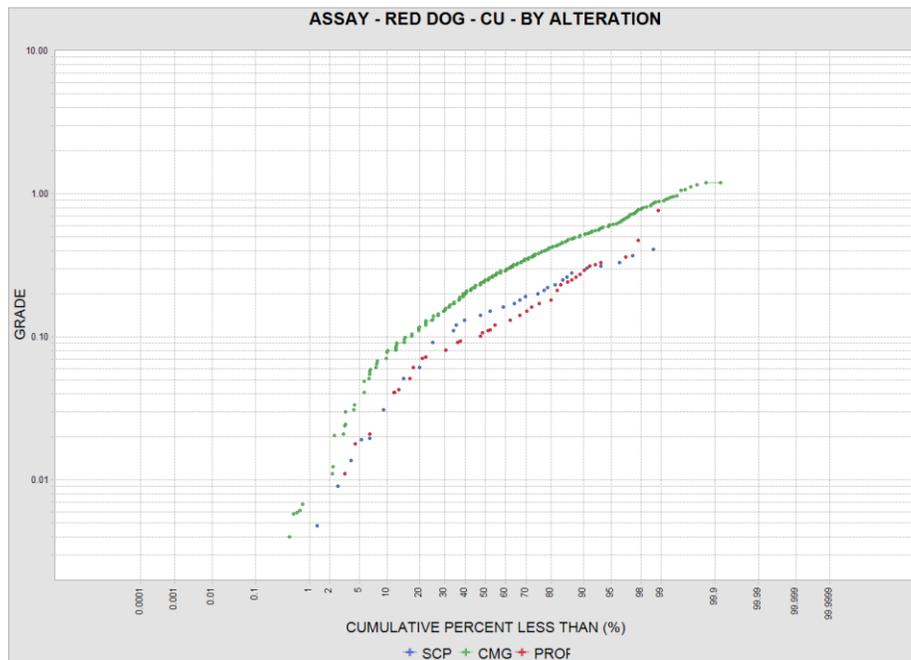
(Source: MMTS, 2024)

Figure 14-7 CPP of Cu Assay Data by Domain – Northwest Expo



(Source: MMTS, 2024)

Figure 14-8 CPP of Au Assay Data by Domain – Red Dog



(Source: MMTS, 2024)

Figure 14-9 CPP of Cu Assay Data by Domain – Red Dog

Capping and Outlier values are summarized in Table 14-8 below. Values above the capping value are equal to the capping value in the assay file prior to compositing. Composite values above the Outlier value are restricted during interpolations to the Outlier value for distance greater than 5m from the composite interval.

Table 14-8 Summary of Capping and Outlier Restriction Values

Area	Alteration	Au (g/t)		Cu (%)		Mo (ppm)		Re (ppm)	
		Cap	Outlier	Cap	Outlier	Cap	Outlier	Cap	Outlier
Hushamu	SCP	1.5	1.3	2	1	1,000	1,000	7	na
	CMG	1.6	1.3	1	1	500	1,000	3	na
	Propylitic	2	1.3	1.5	1	900	1,000	8	na
	QFP	0.2	na	0.2	na	100	1,000	8	na
Northwest Expo	all in mineralized domains	10	2	1	0.4	na	na	na	na
Red Dog	SCP	0.7	na	0.45	na	na	na	na	na
	CMG	2	na	1.15	na	na	na	na	na
	Propylitic	1.2	na	0.6	na	na	na	na	na

The capped assay and composite statistics of each deposit are summarized in the Table 14-9 through Table 14-11 for each deposit. These tables illustrate that no significant bias has been introduced during the compositing process. They also indicate that the distributions have low CV confirming the choice of linear interpolation methods are appropriate.

Table 14-9 Assay and Composite Statistics by Domain – Hushamu

Source	Parameter	Uncapped				Capped			
		Cu	Au	Mo	Re	Cu	Au	Mo	Re
		(%)	(g/t)	(ppm)	(ppm)	(%)	(g/t)	(ppm)	(ppm)
Assays	Num Samples	11,151	10,940	10,515	9,636	11,151	10,940	10,515	9,636
	Num Missing	121	332	757	1,636	121	332	757	1,636
	Min	0.00	0.00	0.50	0.00	0.00	0.00	0.50	0.00
	Max	2.51	2.50	2829	22.50	1.90	2.00	1000	8.00
	Wtd Mean	0.15	0.20	90.71	0.51	0.15	0.20	90.36	0.50
	Wtd C.V.	1.05	0.98	0.95	1.21	1.03	0.97	0.90	1.13
	Composites	Num Samples	8,423	8,231	7,867	7,069	8,423	8,231	7,867
Num Missing	61	253	617	1,415	61	253	617	1,415	
Min	0.00	0.00	0.50	0.00	0.00	0.00	0.50	0.00	
Max	2.51	1.98	1630	11.37	1.50	1.60	982	7.51	
Wtd Mean	0.15	0.20	90.18	0.50	0.15	0.20	89.84	0.50	
Wtd C.V.	1.01	0.95	0.90	1.13	0.99	0.93	0.87	1.08	
Difference (%)		-0.1%	0.0%	-0.6%	-0.6%	-0.1%	0.0%	-0.6%	-0.6%

Table 14-10 Assay and Composite Statistics by Domain – Northwest Expo

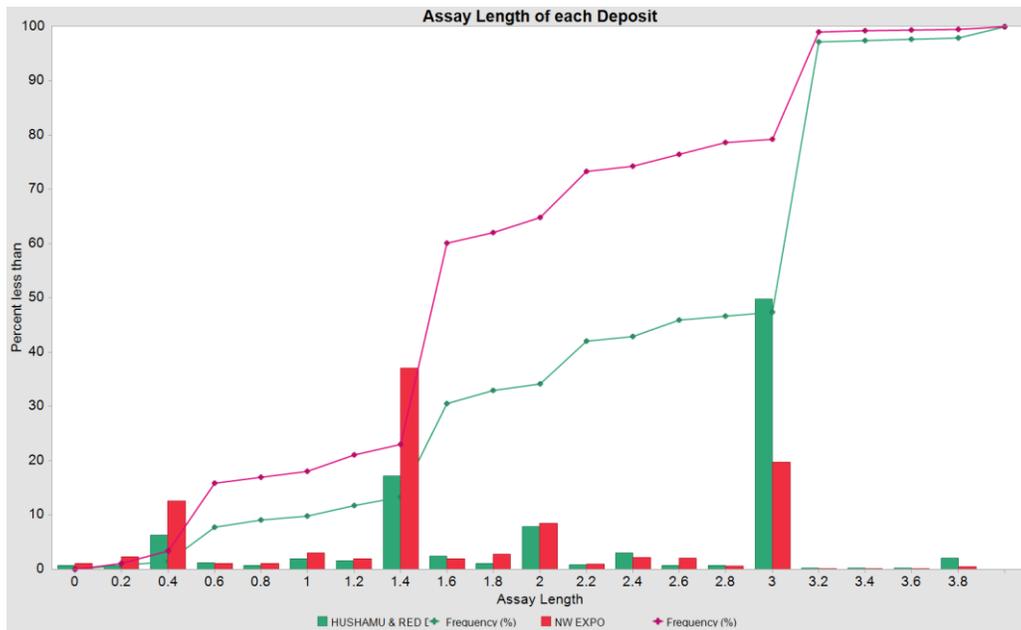
Source	Parameter	Uncapped		Capped	
		Au	Cu	Au	Cu
		(g/t)	(%)	(g/t)	(%)
Assays	Num Samples	1815	1815	1815	1815
	Num Missing	0	0	0	0
	Min	0.003	0.001	0.003	0.001
	Max	10.200	1.763	10.000	1.000
	Wtd mean	0.652	0.107	0.652	0.107
	Wtd CV	1.050	1.145	1.046	1.083
Composites	Num Samples	995	995	995	995
	Num Missing	0	0	0	0
	Min	0.003	0.001	0.003	0.001
	Max	7.147	1.546	7.013	1.000
	Wtd mean	0.652	0.107	0.652	0.107
	Wtd CV	0.950	1.069	0.947	1.023
Difference (%)		0.0%	0.0%	0.0%	0.0%

Table 14-11 Assay and Composite Statistics by Domain – Red Dog

Source	Parameter	Uncapped		Capped	
		Cu	Au	Cu	Au
		(%)	(g/t)	(%)	(g/t)
Assays	Num Samples	11,151	10,940	11,151	10,940
	Num Missing	121	332	121	332
	Min	0.000	0.0	0.0	0.0005
	Max	2.510	2.5	1.9	2
	Wtd Mean	0.147	0.2	0.1	0.20296
	Wtd C.V.	1.05	0.98	1.03	0.97
Composites	Num Samples	8,484	8,288	8,484	8,288
	Num Missing	101	297	101	297
	Min	0.000	0.0	0.0	0.0025
	Max	2.510	2.0	1.5	1.5987
	Wtd Mean	0.147	0.2	0.1	0.20291
	Wtd C.V.	1.01	0.95	0.99	0.93
Difference (%)		-0.1%	0.0%	-0.1%	0.0%

14.5 Compositing

Compositing has been done as 3m fixed length composites for all three deposits. Small intervals less than 1.5m are merged with the up-hole composite if the composite length is less than 3m. The length of 3m is chosen because it is as long as most assay lengths, as illustrated in Figure 14-10. Domain boundaries are honored during compositing.



(Source: MMTS, 2024)

Figure 14-10 Assay Lengths – All Deposits

14.6 Variography

Correlograms have been created for each domain, and each deposit. A summary of the spherical correlogram parameters is given in Table 14-12 through Table 14-14 for Hushamu, Northwest Expo, and Red Dog respectively.

Table 14-12 Variogram Parameters – Hushamu

Parameter	Au	Cu	Mo
ROT-Y	295	295	290
ROT-X	0	0	0
ROT-Z	-25	-25	-15
Nugget	0.15	0.2	0.2
Sill1	0.25	0.2	0.3
Sill2	0.3	0.2	0.2
Sill3	0.3	0.4	0.3
Range1-Y	80	120	80
Range1-X	30	80	25
Range 1-Z	10	10	50
Range2-Y	200	360	300
Range2-X	130	120	150
Range2-Z	100	120	130
Range3-Y	800	1000	720
Range3-X	350	400	400
Range3-Z	180	180	180

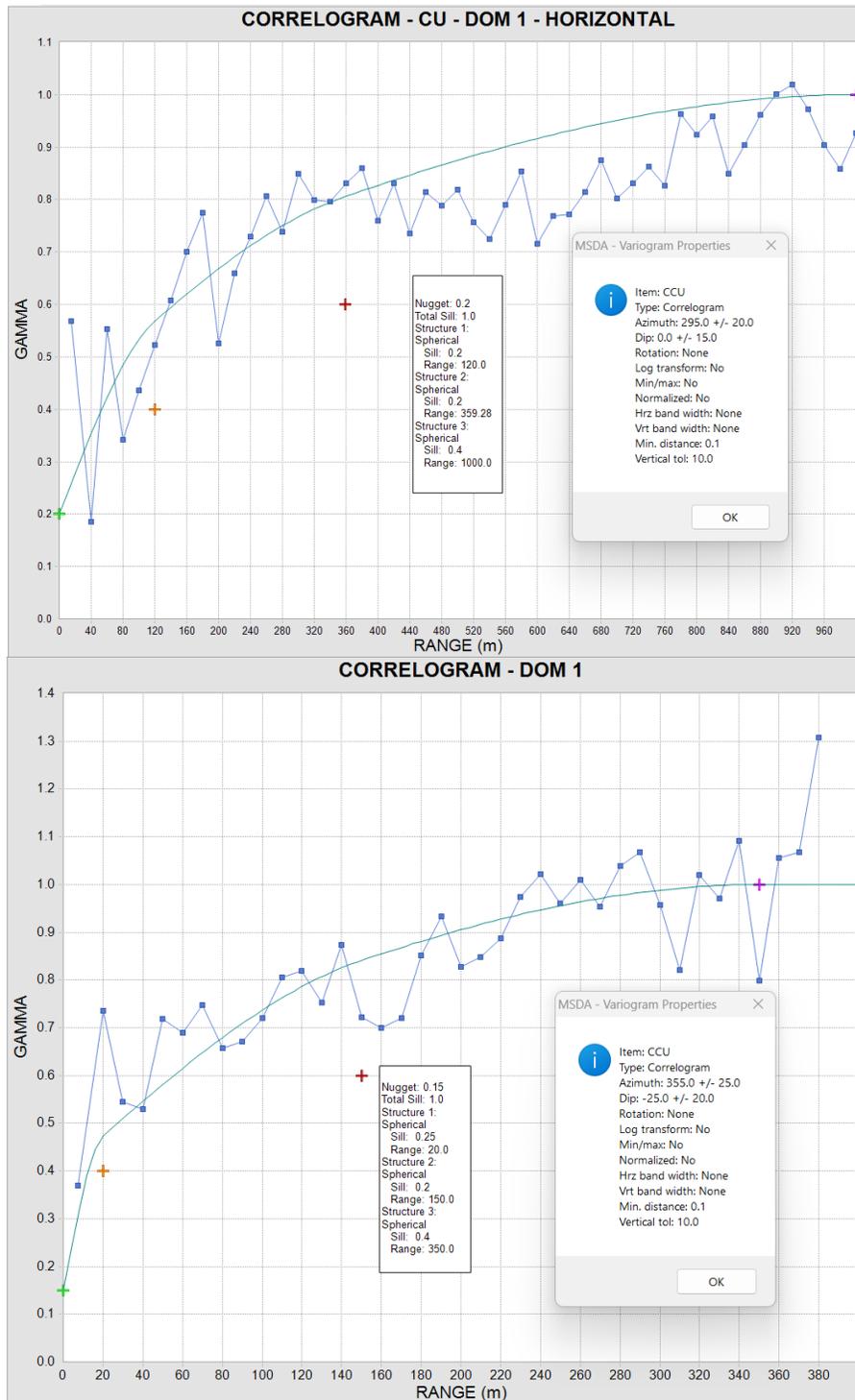
Table 14-13 Variogram Parameters - Northwest Expo

Parameter	Au	Cu
ROT-Y	300	305
ROT-X	0	0
ROT-Z	-45	-50
Nugget	0.2	0.15
Sill1	0.3	0.35
Sill2	0.2	0.3
Sill3	0.3	0.2
Range1-Y	60	60
Range1-X	70	150
Range 1-Z	25	20
Range2-Y	100	120
Range2-X	80	180
Range2-Z	60	50
Range3-Y	200	180
Range3-X	250	230
Range3-Z	90	90

Table 14-14 Variogram Parameters – Red Dog

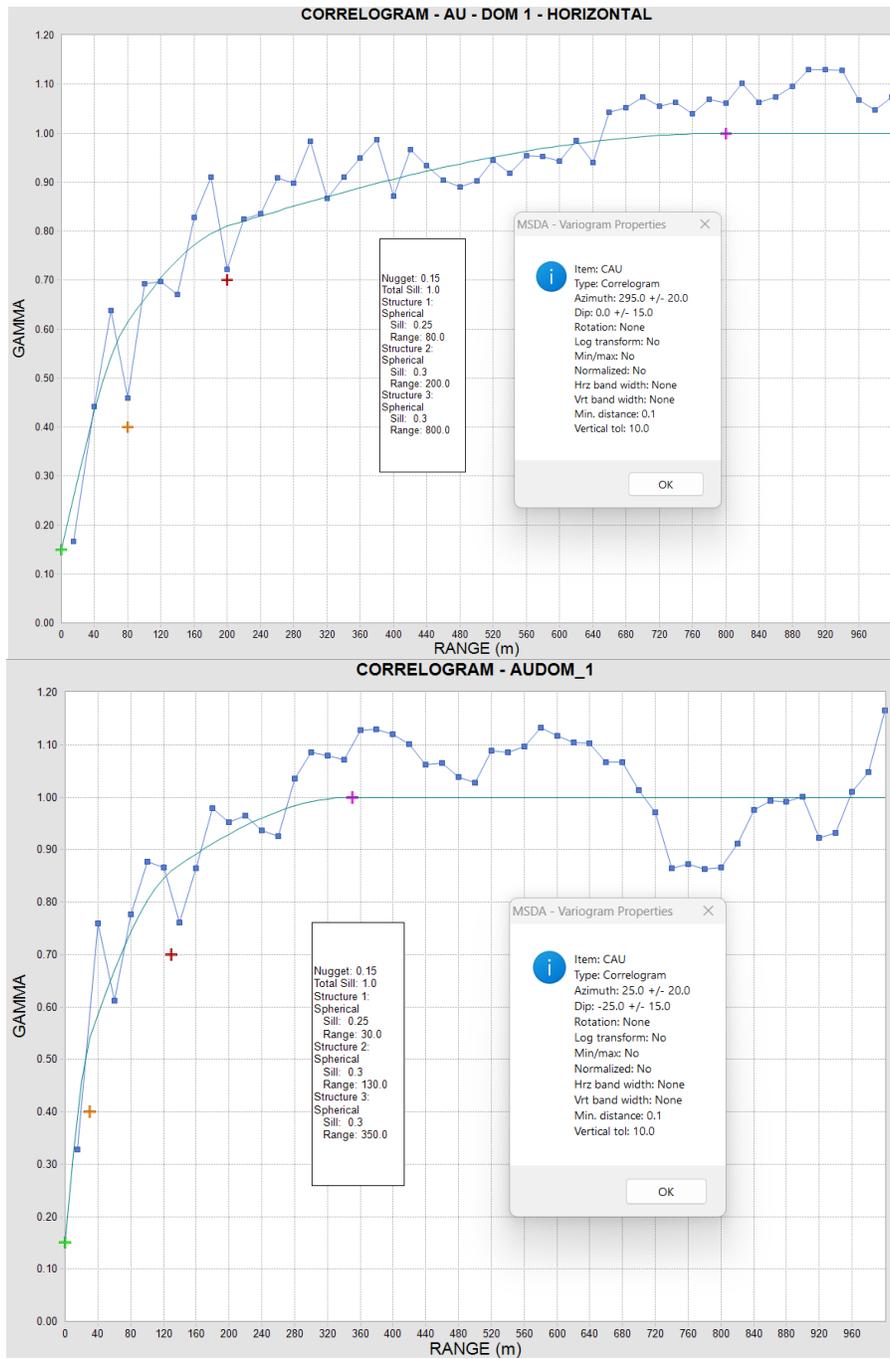
Parameter	Au	Cu
ROT-Y	260	265
ROT-X	0	0
ROT-Z	-30	-20
Nugget	0.2	0.15
Sill1	0.2	0.25
Sill2	0.2	0.2
Sill3	0.4	0.4
Range1-Y	40	180
Range1-X	15	20
Range 1-Z	5	15
Range2-Y	80	260
Range2-X	50	150
Range2-Z	20	50
Range3-Y	280	280
Range3-X	250	350
Range3-Z	100	70

An example of the Variogram Model for Cu in Domain 1 in the major and minor axes directions is illustrated in Figure 14-11 for Cu and Figure 14-12 for Au in the Hushamu deposit. Figure 14-13 is the variograms for Au at Northwest Expo. And Figure 14-14 illustrates the variogram for Red Dog for the major and minor axes for Au.



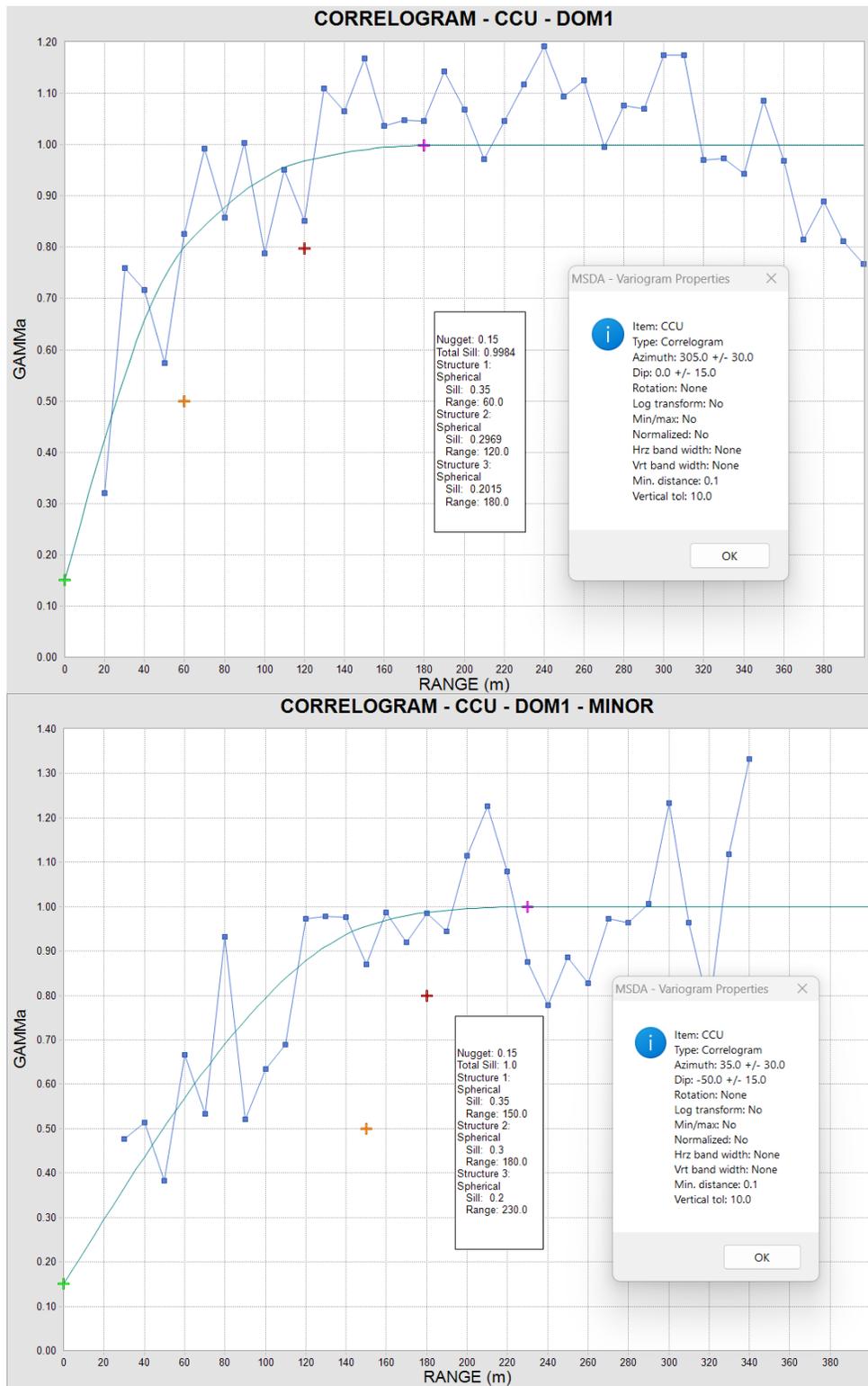
(Source: MMTS, 2024)

Figure 14-11 Variogram Model for Cu in Domain 1 – Major and Minor Axes – Hushamu Deposit



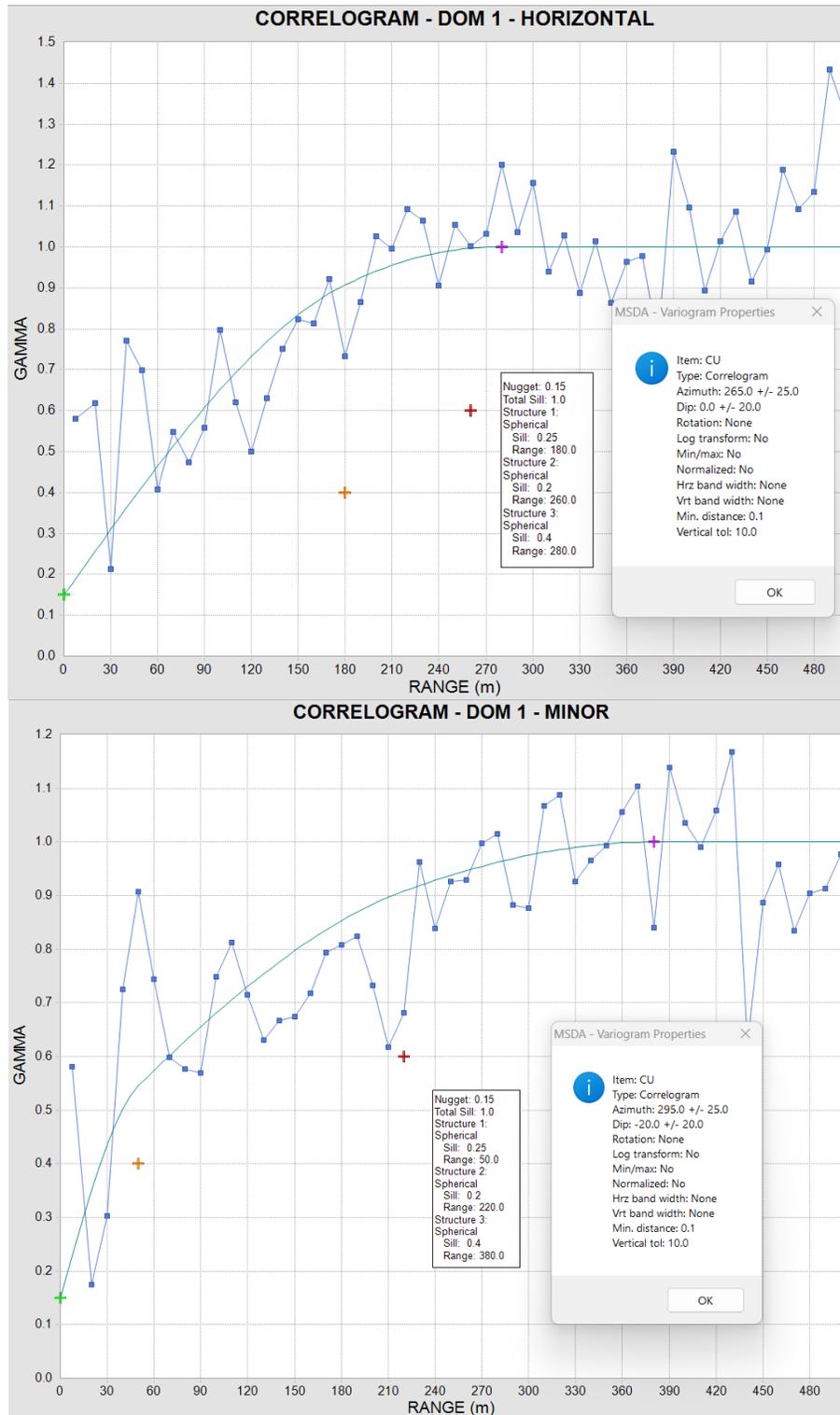
(Source: MMTS, 2024)

Figure 14-12 Variogram Model for Au in Domain 1 – Major and Minor Axes – Hushamu Deposit



(Source: MMTS, 2024)

Figure 14-13 Variogram Model for Cu in Domain 5 – Major and Minor Axes – Northwest Expo Deposit



(Source: MMTS, 2024)

Figure 14-14 Variogram Model for Au in Domains 1-6 – Major and Minor Axes – Red Dog Deposit

14.7 Block Model Interpolations

The block model limits and block size for each deposit are as given in Table 14-15.

Table 14-15 Block Model Limits

Model	Direction	Minimum	Maximum	Extent	Size	# blocks
Hushamu	Easting	579000	582000	3000	20	150
	Northing	5612500	5615500	3000	20	150
	Elevation	-90	750	840	15	56
Northwest Expo	Easting	568200	570200	2000	10	200
	Northing	5618600	5620600	2000	10	200
	Elevation	-100	530	630	10	63
Red Dog	Easting	571700	573000	1300	10	130
	Northing	5617500	5618400	900	10	90
	Elevation	100	580	480	10	48

Interpolation of Au, Cu, Mo and Re values is done by ordinary kriging (OK) in four passes based on the variogram parameters. Interpolations used hard boundaries, with composites and block codes required to match within each domain. Search parameters are summarized in Table 14-16 through Table 14-18 below.

Table 14-16 Search Rotation and Distances – Hushamu

Metal	ROTATION AXIS	Rotation (degrees)	DISTANCE (m)			
			PASS1	PASS2	PASS3	PASS4
AU	Y	295	80	400	800	1200
	X	0	30	175	350	525
	Z	-25	10	90	180	270
CU	Y	295	120	500	1000	1500
	X	0	80	200	400	600
	Z	-25	10	90	180	270
MO and RE	Y	290	80	360	720	1080
	X	0	25	200	400	600
	Z	-15	45	90	180	270

Table 14-17 Search Rotation and Distances – Northwest Expo

Metal	ROTATION AXIS	Rotation (degrees)	DISTANCE (m)			
			PASS1	PASS2	PASS3	PASS4
AU	Y	300	50	100	200	300
	X	0	62.5	125	250	375
	Z	-45	22.5	45	90	135
CU	Y	305	45	90	180	270
	X	0	57.5	115	230	345
	Z	-50	20	45	90	135

Table 14-18 Search Rotation and Distances – Red Dog

Metal	ROTATION AXIS	Rotation (degrees)	DISTANCE (m)			
			PASS1	PASS2	PASS3	PASS4
AU	Y	260	40	80	210	420
	X	0	15	50	187.5	375
	Z	-30	5	20	75	150
CU	Y	265	70	140	210	420
	X	0	20	150	262.5	525
	Z	-20	15	35	52.5	105

Additional search criteria on composite selection are summarized in Table 14-19. Search criteria are used to ensure that more than one drillhole is used for all passes, and more than one quadrant is used for the first three passes, as well as to limit smoothing of grade by limiting the maximum number of composites to be used.

Table 14-19 Additional Search Criteria

Criteria	Pass 1	Pass 2	Pass 3	Pass 4
Minimum # composites	4	4	4	4
Maximum # composites	12	12	12	12
Maximum / drillhole	2	2	2	2
Maximum / quadrant	2	2	2	na

14.8 Classification

Classification is based on the variogram parameters, with the required average distance to the nearest two drillholes required to be less than the distance of the range at 80% of the sill (R80 value) for each domain as summarized in Table 14-20. In each case the preliminary Classification has been reviewed with shapes made to ensure that Indicated and Inferred blocks are continuous.

Table 14-20 Classification Criteria

Deposit	Hushamu	Northwest Expo	Red Dog
Average Distance to 2 DHs	250	65	150
Maximum distance to DH	350	na	212

Three-dimensional views of the blocks as classified for each deposit, also showing the drillholes and resource pits, are illustrated in Figure 14-15 through Figure 14-17 for Hushamu, Northwest Expo and Red Dog respectively. In the figure 1=Measured, 2=Indicated and 3=Inferred.

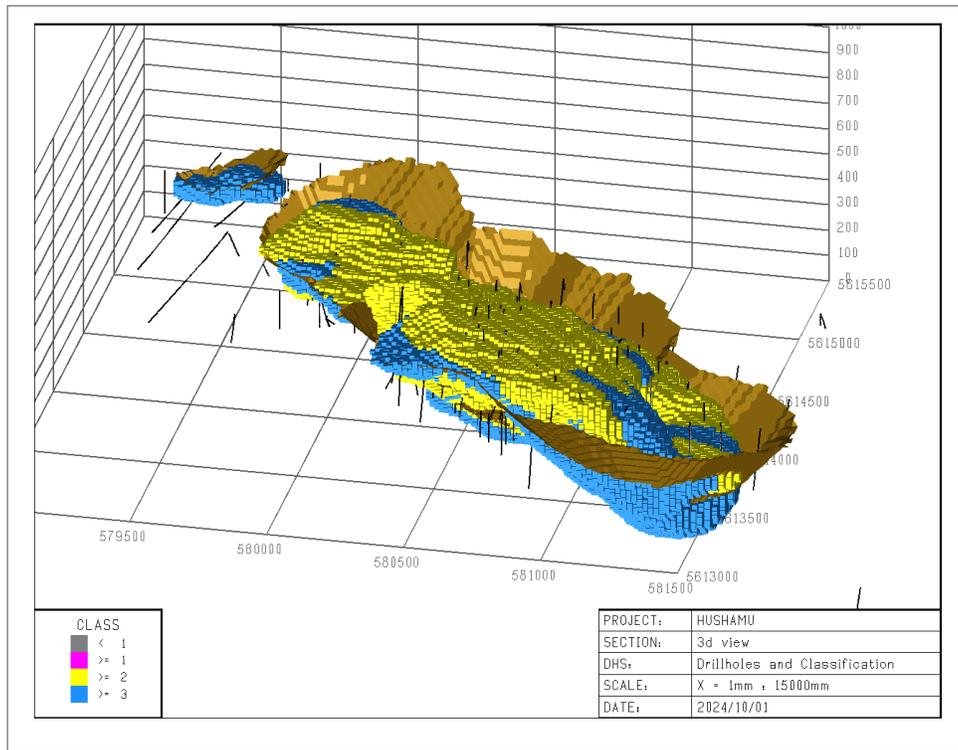


Figure 14-15 Classification - Hushamu

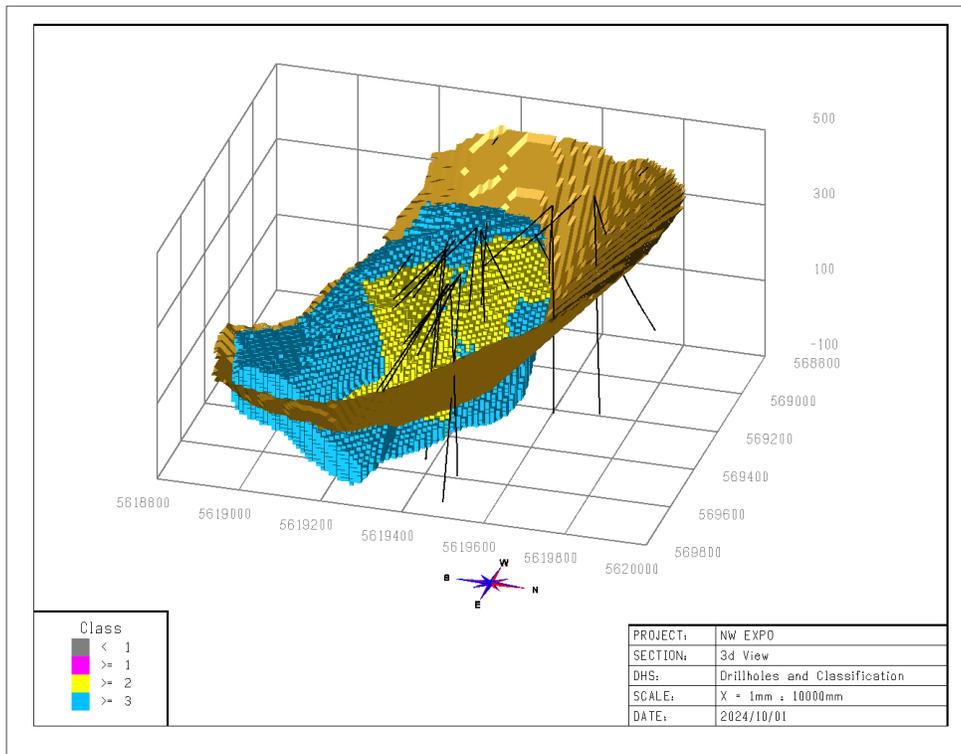


Figure 14-16 Classification – Northwest Expo

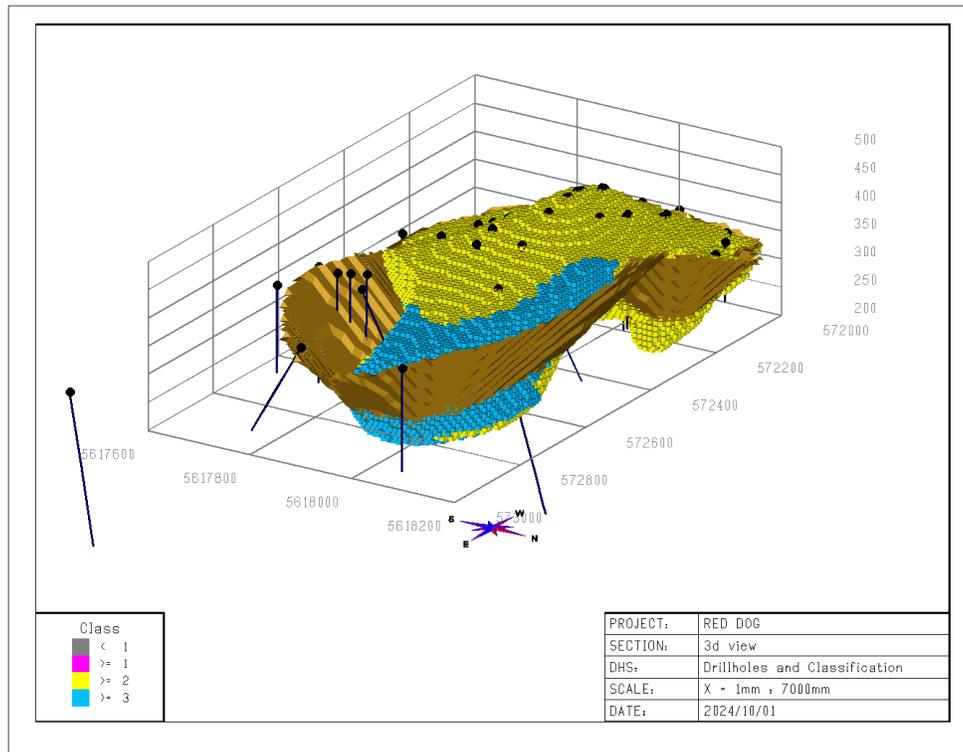


Figure 14-17 Classification – Red Dog

14.9 Block Model Validation

14.9.1 Comparison of Tonnage and Grades

Interpolations have also been completed using a Nearest Neighbour (NN) method to essentially de-cluster the composite data for grade comparisons with the modelled grades. Table 14-21 gives a summary of the mean grades for de-clustered composites (NN interpolation), and OK grades at a 0.1% Cu cutoff. Table 14-22 gives a summary of the mean grades for de-clustered composites (NN interpolation), and OK grades at a 0.1% Cu cutoff. The tonnage, grade and metal content are variable, but conservative compared to the un-capped de-clustered composites.

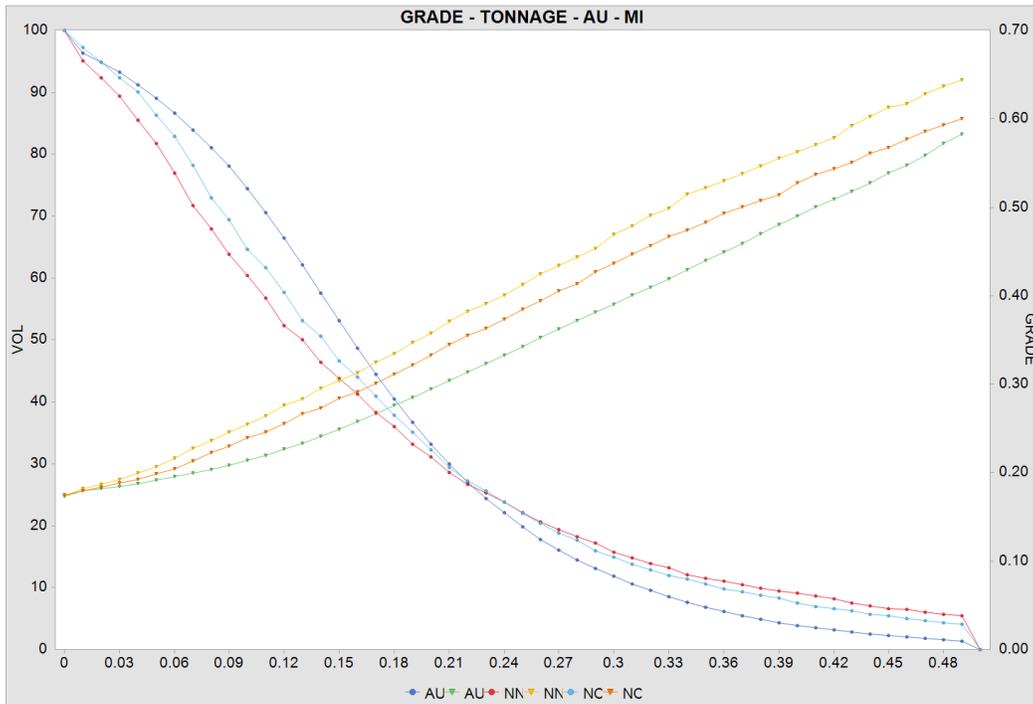
This comparison is illustrated more succinctly in the plots of tonnage-grade curves. Cutoff grade plots (tonnage-grade curves) are constructed for each metal to check the validity of the modelling. The NN values for Au and Cu are plotted and compared to the modelled OK values for the Hushamu deposit in Figure 14-18 and Figure 14-19. The NN values for Mo and Re are plotted and compared to the modelled OK values for the Hushamu deposit in Figure 14-20 and Figure 14-21. For Northwest Expo, the tonnage-grade curves for Au and Cu are presented in Figure 14-22 and Figure 14-23. And for Red Dog the tonnage grade curves are presented in Figure 14-24 and Figure 14-25. The curves for Hushamu and Red Dog are within the Resource confining pit shape. For Northwest Expo, all blocks within modelled domains are plotted due to the underground component of the resource. In each case, the distributions show good correlation, and thus the change of support are valid.

Table 14-21 Comparison of De-clustered Composite and OK Modelled Grades for Au and Cu – All Deposits

Deposit	Cutoff (gpt)	Au Metal (Koz)		AU Difference (OK- NN)/NN	Cu Metal (Mlbs)		CU Difference (OK- NN)/NN
		OK	NN		OK	NN	
Hushamu	0	5,905	5,905	0.0%	2,830	2,815	0.6%
	0.12	5,196	4,979	4.4%	2,124	2,203	-3.6%
	0.15	4,580	4,589	-0.2%	1,731	1,914	-9.5%
	0.2	4,350	4,454	-2.3%	1,597	1,794	-11.0%
	0.5	4,108	4,294	-4.3%	1,473	1,712	-14.0%
	0.6	3,867	4,157	-7.0%	1,350	1,631	-17.2%
	0.7	3,402	3,836	-11.3%	1,134	1,484	-23.6%
Northwest Expo	0	939	993	-5.4%	109	114	-4.7%
	0.12	935	982	-4.8%	63	76	-16.9%
	0.15	931	978	-4.8%	45	58	-23.3%
	0.2	930	976	-4.7%	40	55	-26.8%
	0.5	928	973	-4.6%	36	51	-29.6%
	0.6	926	970	-4.5%	32	45	-29.6%
	0.7	921	967	-4.7%	24	38	-35.9%
Red Dog	0	691	710	-2.6%	343	350	-1.9%
	0.12	651	653	-0.4%	288	290	-0.6%
	0.15	601	624	-3.7%	250	266	-6.0%
	0.16	582	605	-3.8%	237	251	-5.7%
	0.17	560	596	-6.0%	221	234	-5.3%
	0.18	537	579	-7.2%	208	220	-5.8%
	0.2	495	526	-5.9%	181	202	-10.2%

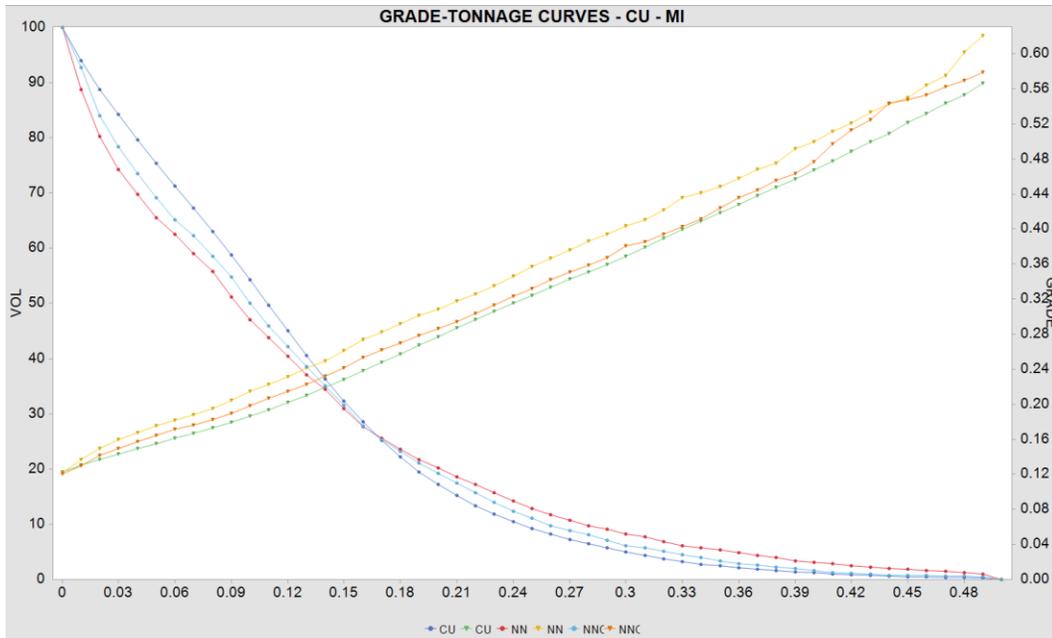
Table 14-22 Comparison of De-clustered Composite and OK Modelled Grades for Mo and Re – Hushamu

Mo Cutoff (ppm)	Mo Metal (klbs)		Mo Difference (OK- NN)/NN	Re Cutoff (ppm)	Re Metal (klbs)		Re Difference (OK- NN)/NN
	OK	NN			OK	NN	
0	183	184	-0.9%	0.00	1,031	1,042	-1.1%
10	182	184	-0.7%	0.12	796	815	-2.4%
20	181	181	0.1%	0.15	741	768	-3.6%
30	178	176	1.0%	0.16	683	735	-7.1%
50	163	159	2.1%	0.17	622	702	-11.4%
80	127	130	-2.4%	0.18	559	655	-14.6%
100	97	111	-12.7%	0.20	443	566	-21.7%



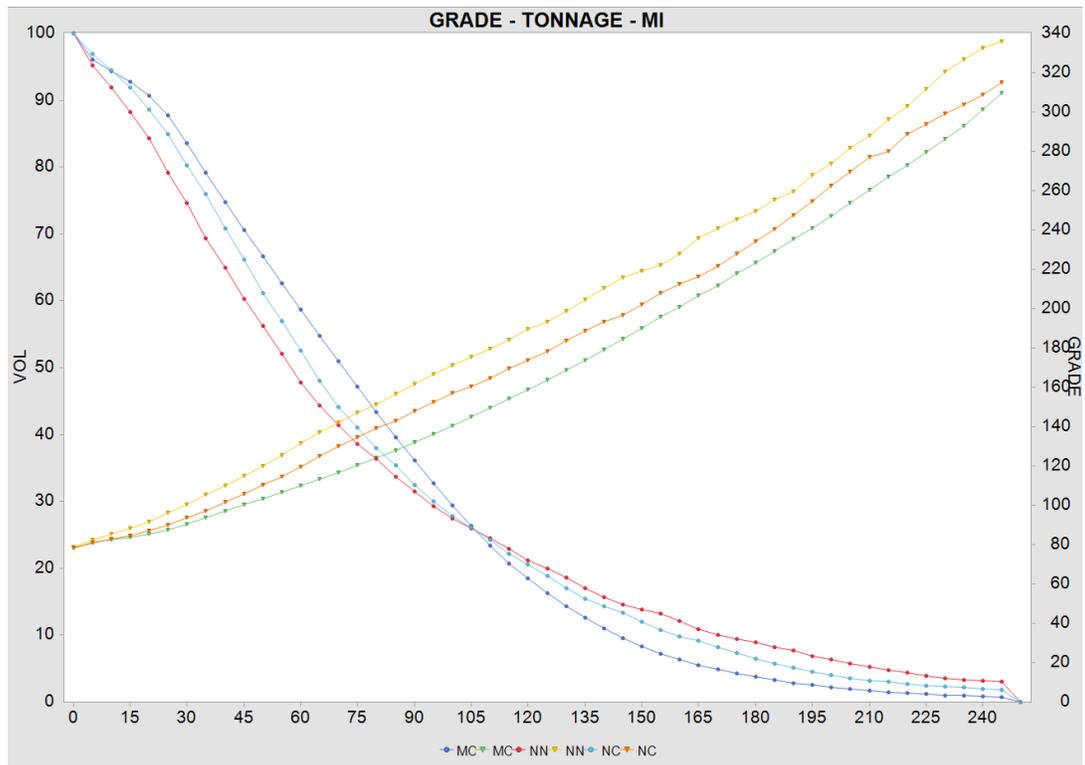
(Source: MMTS, 2024)

Figure 14-18 Tonnage-Grade Curves for Au – Hushamu



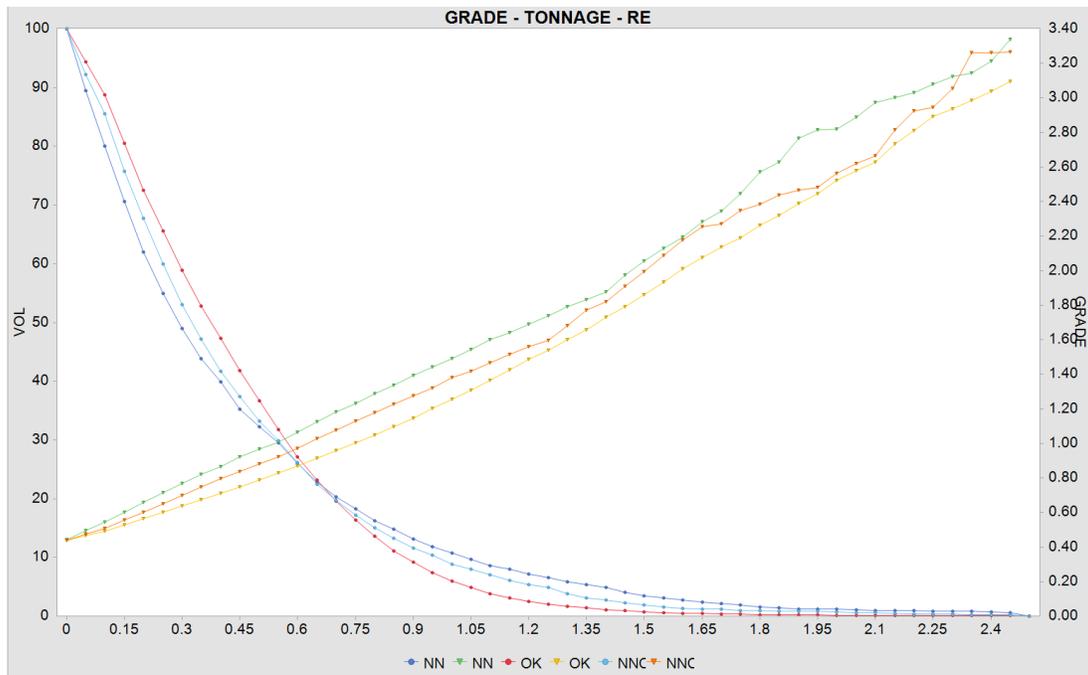
(Source: MMTS, 2024)

Figure 14-19 Tonnage-Grade Curves for Cu – Hushamu



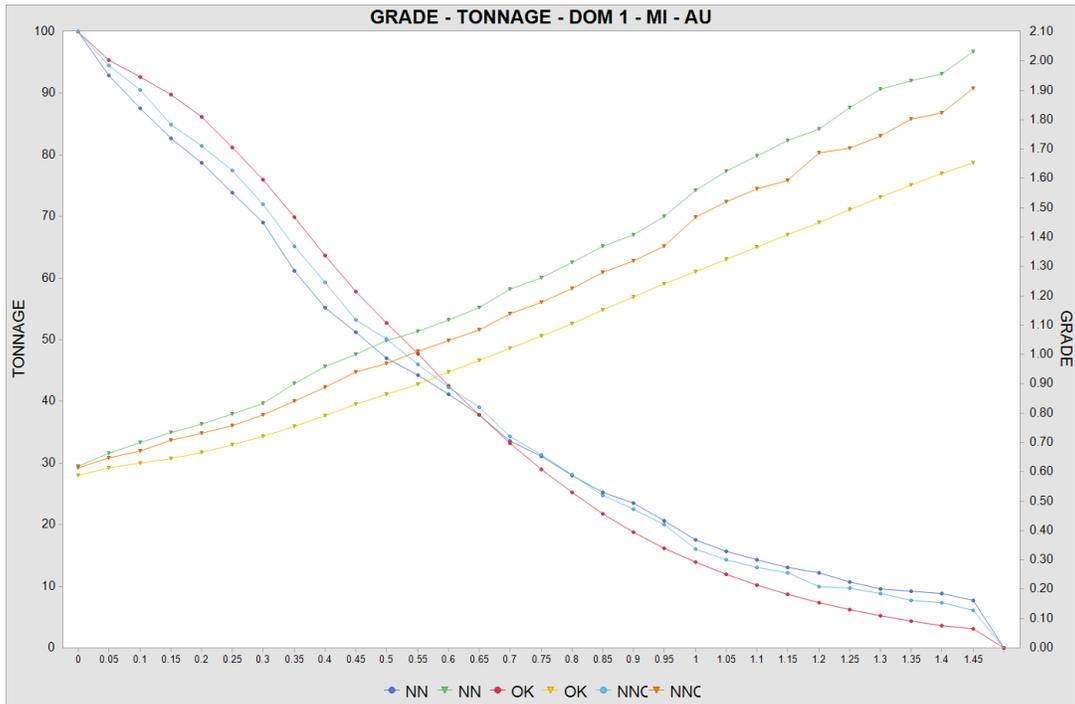
(Source: MMTS, 2024)

Figure 14-20 Tonnage-Grade Curves for Mo – Hushamu



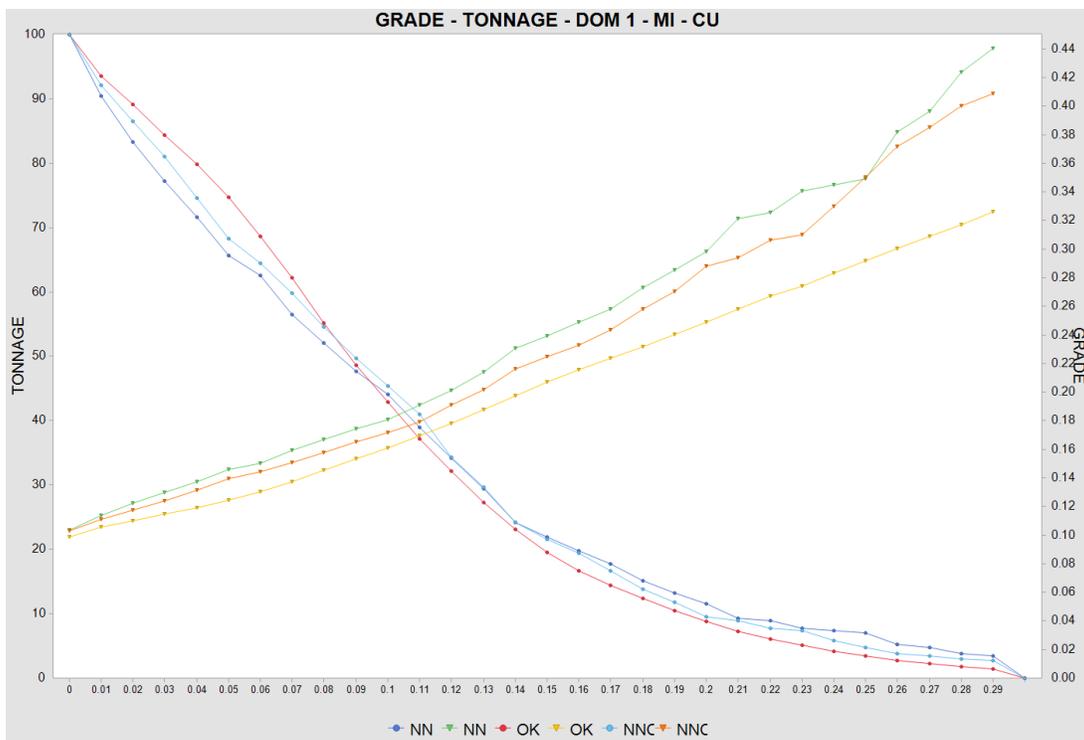
(Source: MMTS, 2024)

Figure 14-21 Tonnage-Grade Curves for Re – Hushamu



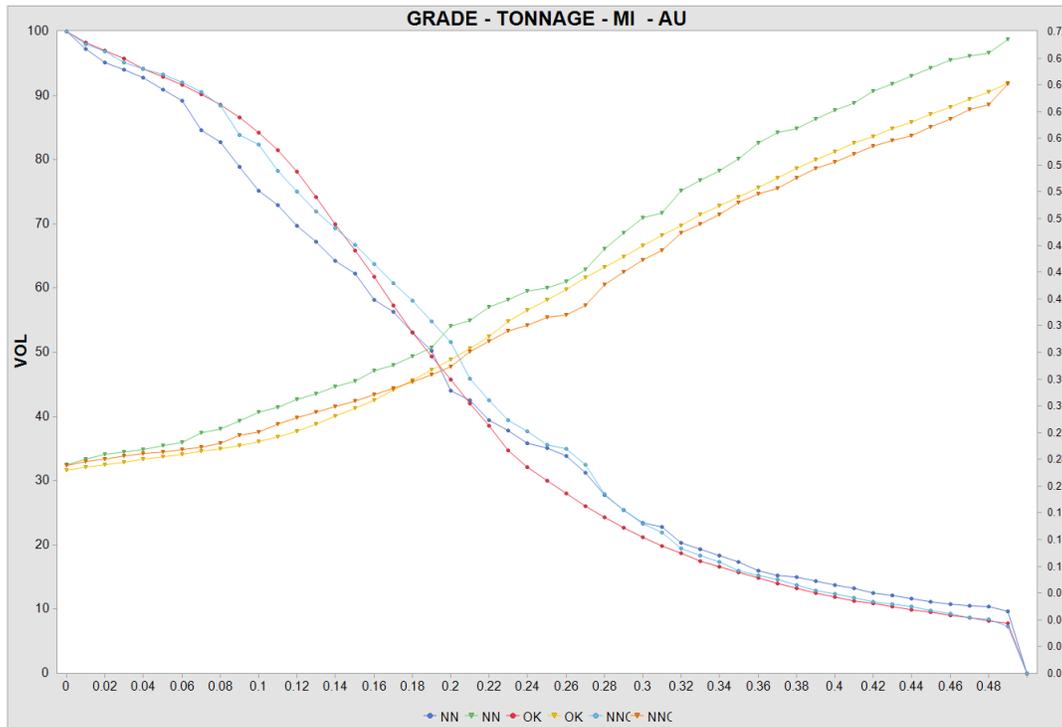
(Source: MMTS, 2024)

Figure 14-22 Tonnage-Grade Curves for Au –Northwest Expo



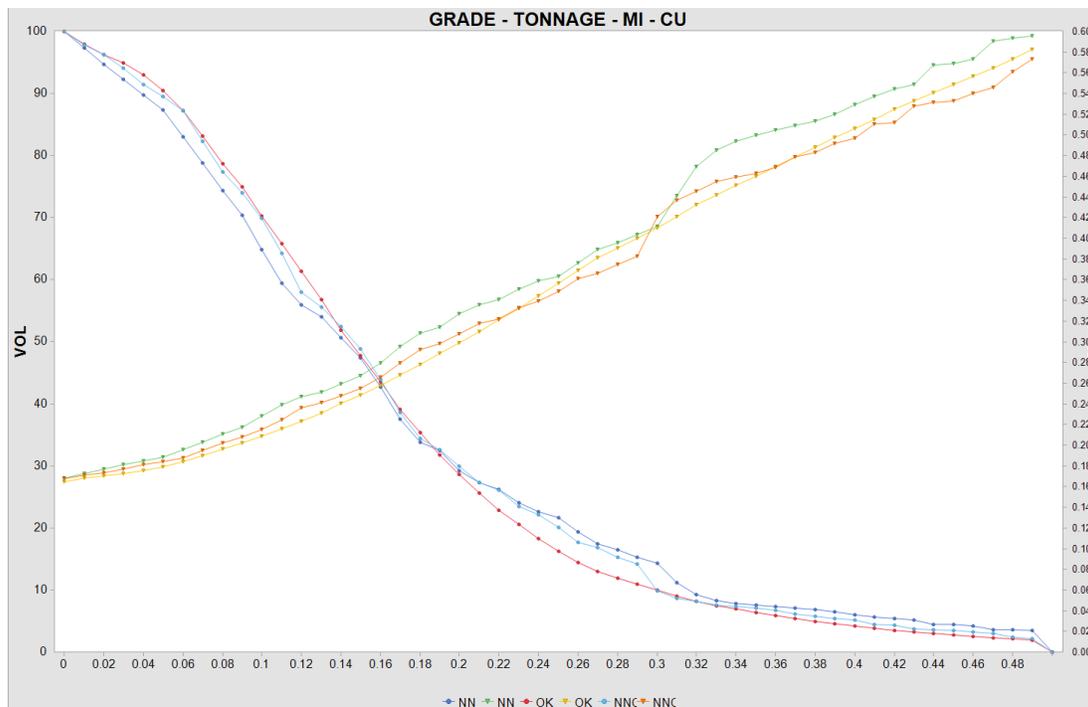
(Source: MMTS, 2024)

Figure 14-23 Tonnage-Grade Curves for Cu –Northwest Expo



(Source: MMTS, 2024)

Figure 14-24 Tonnage-Grade Curves for Au – Comparison of Interpolation Methods – Red Dog



(Source: MMTS, 2024)

Figure 14-25 Tonnage-Grade Curves for Cu – Comparison of Interpolation Methods - Red Dog

14.10 Visual Validation

A series of E-W, N-S sections (every 20m) and plans (every 10m) have been used to inspect the ordinary kriging (OK) block model grades with the original assay data. Figure 14-26 and Figure 14-27 give examples of this comparison at Hushamu for the E-W section at 6871330N, for Au and Cu grades respectively. Figure 14-28 and Figure 14-29 illustrate the grade comparisons at Northwest Expo through the center of the deposit with looking SW at an azimuth of 135 degrees. Figure 14-30 and Figure 14-31 are plots of the Au and Cu grades respectively for Red Dog through the center of the deposit at 6847740N.

Plots throughout the model confirmed that the block model grades corresponded well with the assayed grades.

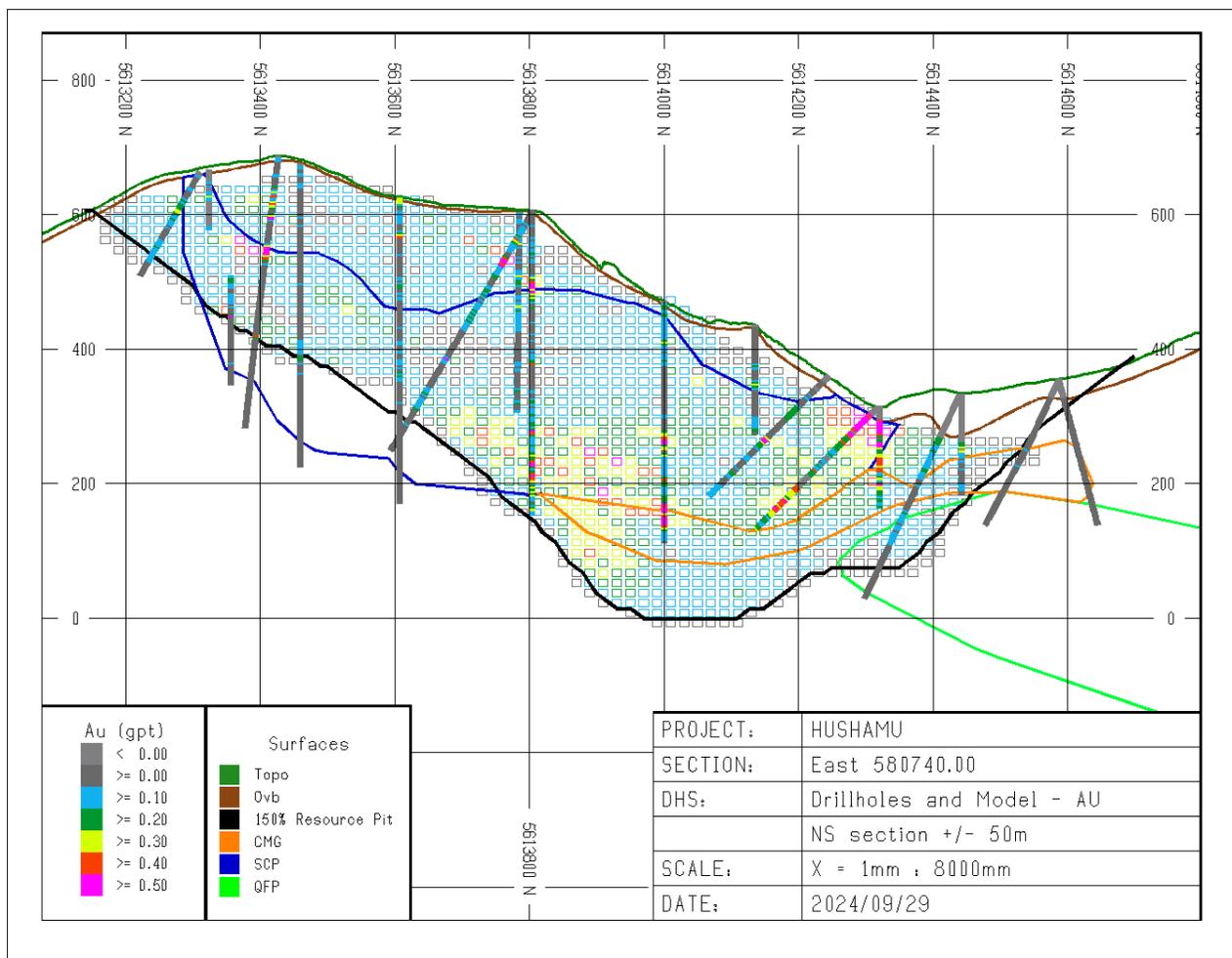


Figure 14-26 E-W Section Comparing Au Grades for Block Model and Assay Data - Hushamu

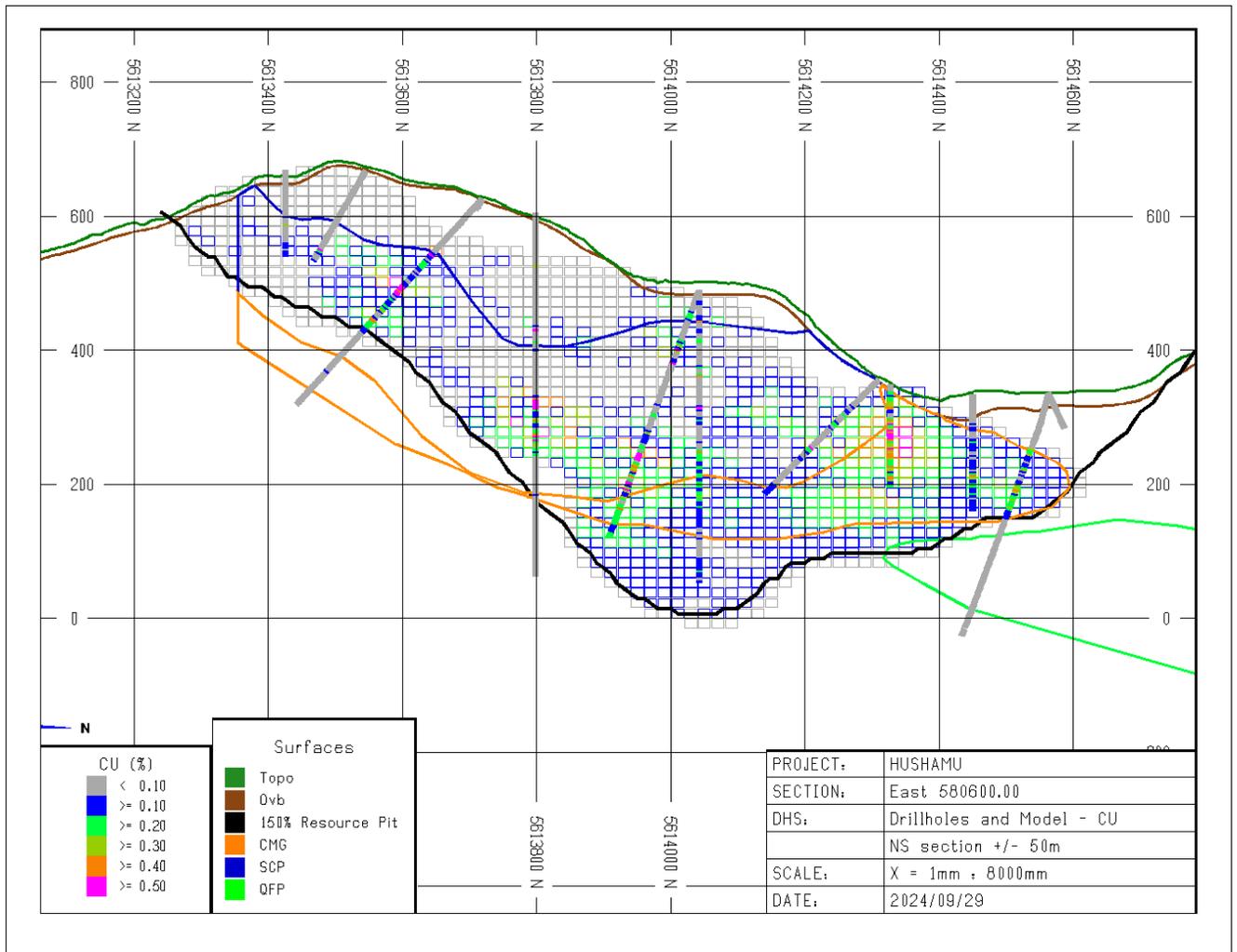


Figure 14-27 E-W Section Comparing Cu Grades for Block Model and Assay Data - Hushamu

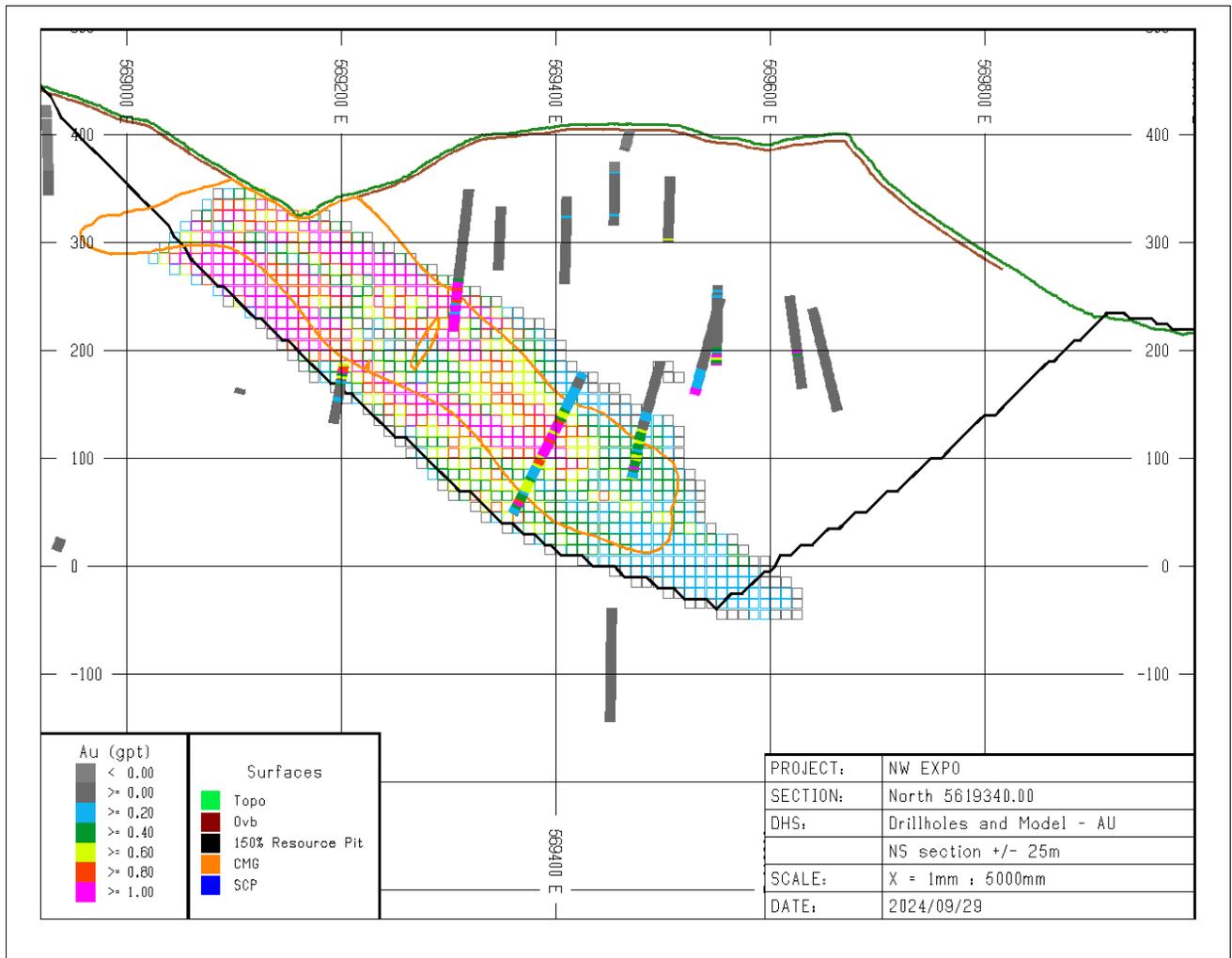


Figure 14-28 E-W Section - Comparing Au Grades for Block Model and Assay Data – Northwest Expo

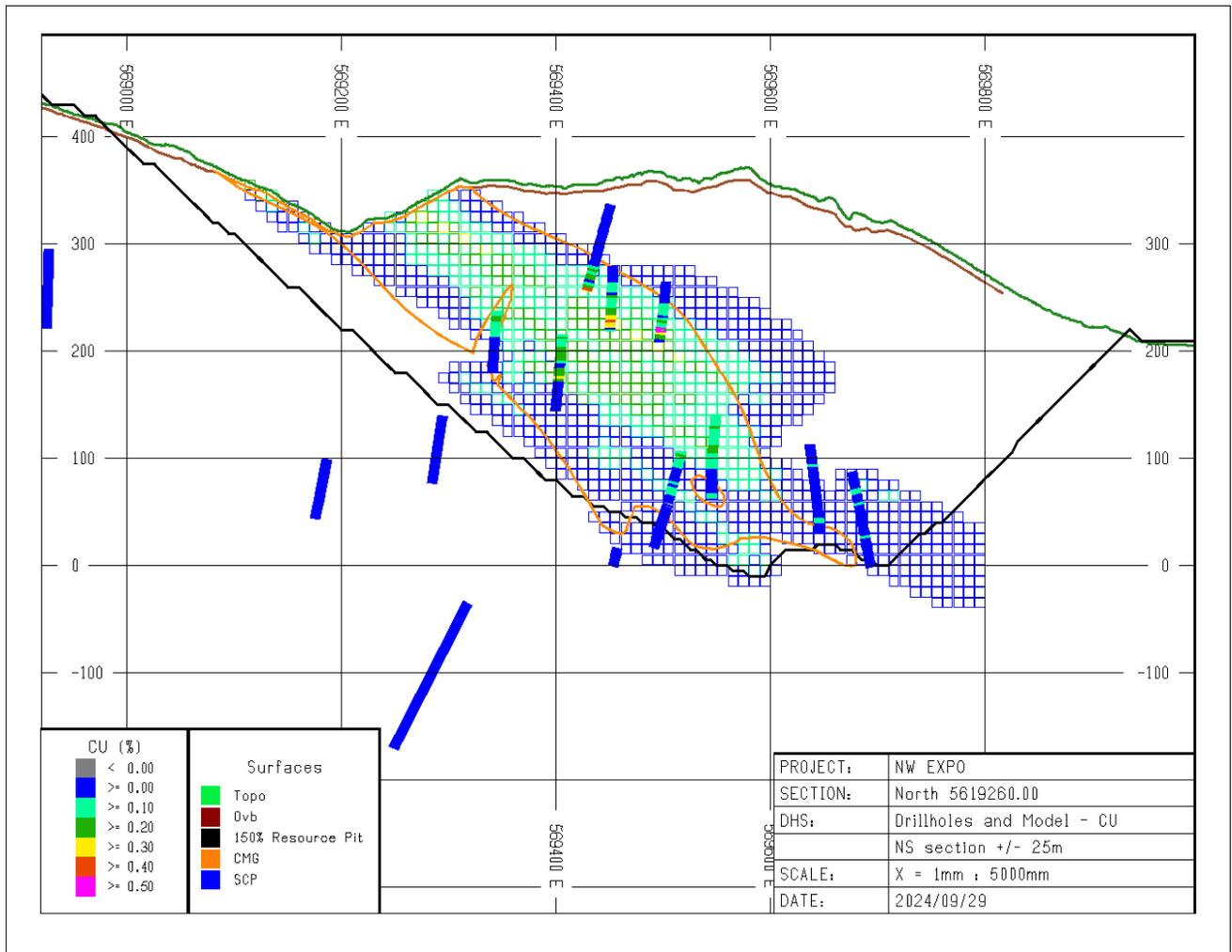


Figure 14-29 E-W Section - Comparing Cu Grades for Block Model and Assay Data – Northwest Expo

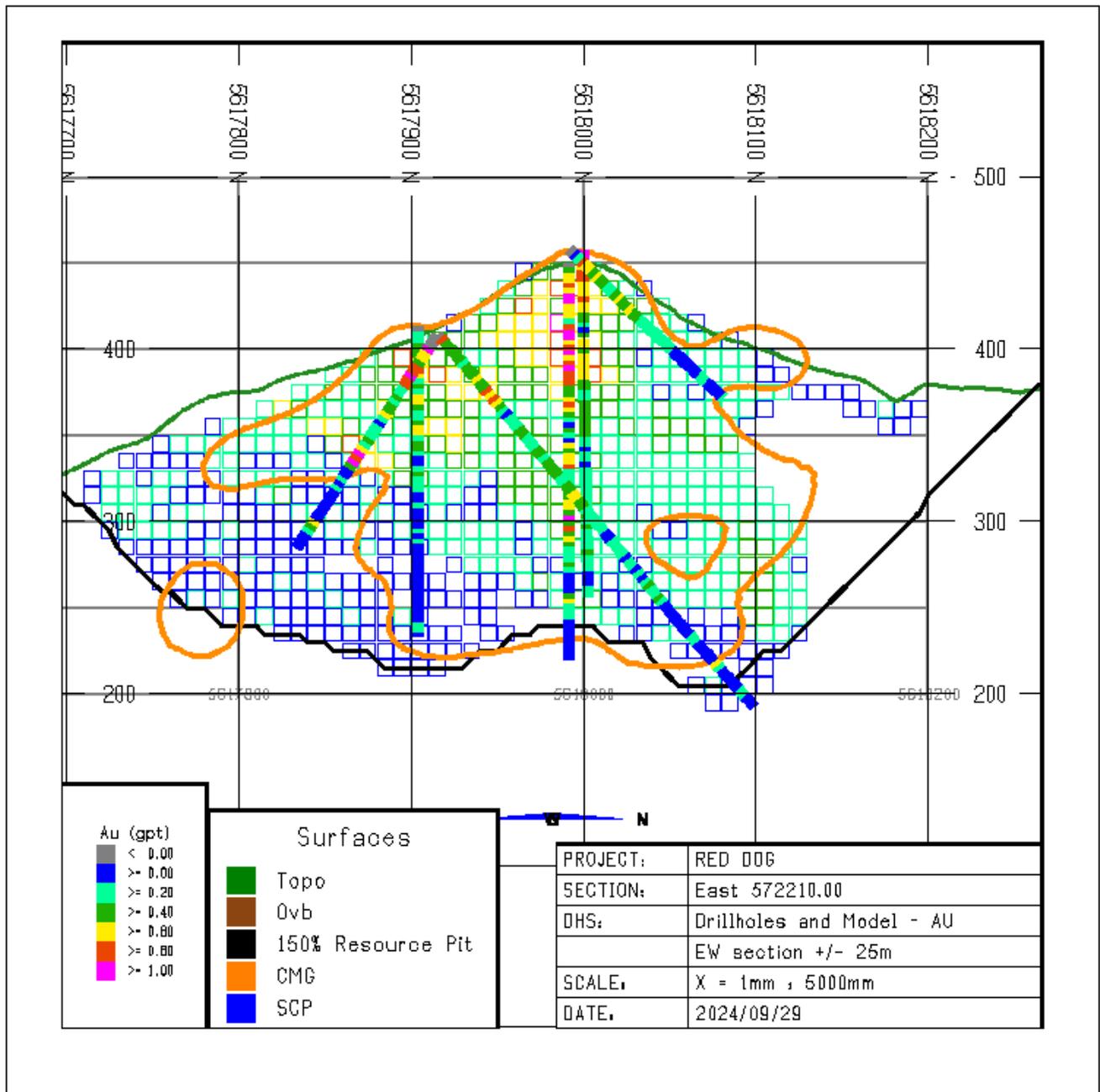


Figure 14-30 E-W Section Comparing Au Grades for Block Model and Assay Data – Red Dog

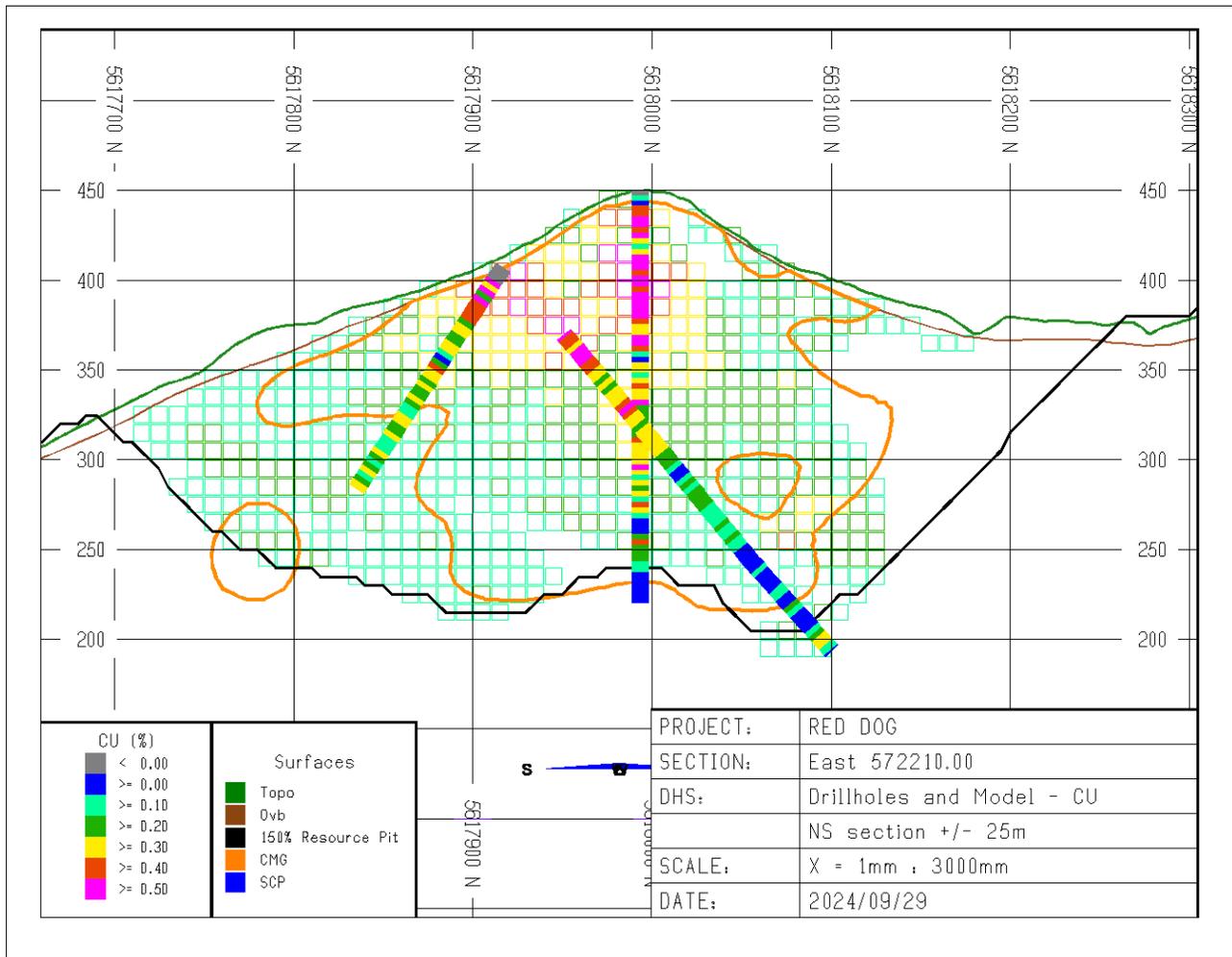


Figure 14-31 E-W Section Comparing Cu Grades for Block Model and Assay Data – Red Dog

14.11 Reasonable Prospects of Eventual Economic Extraction

The resource estimate for each deposit has been confined by “reasonable prospects of eventual economic extraction” pit shape. Process recoveries are based on preliminary metallurgical studies. The recoveries used to determine the Net Smelter Return (NSR), the additional economic inputs and assumptions to produce a Lerchs-Grossman (LG) pit shell using MineSight®, are summarized below in Table 14-23.

Table 14-23 Economic Inputs and Metallurgical Recoveries

Parameter	Value	Units
Copper Price	\$4.00	US\$/lb
Molybdenum Price	\$21.00	US\$/lb
Gold Price	\$1,910	US\$/oz
Rhenium Price	\$806	US\$/lb
Forex	1.32	C\$/US\$
Cu and Mo Con Moisture	9%	%
Cu Payable	96.5%	%
Cu Con Smelting	\$75.00	US\$/DMT
Cu Refining	\$0.075	US\$/lb
Re Payable	50%	%
Au Refining	\$5.00	US\$/oz
Mo Payable	98.0%	%
Mo Refining	\$1.30	US\$/lb
Con Offsite Transport	85.00	C\$/WMT
Con Offsite Other Charges	0.00	C\$/WMT
Royalty, Northwest Expo and Hushamu	0.0%	%
Royalty, Red Dog	1.0%	%

14.12 Factors That May Affect the Mineral Resource Estimate

Areas of uncertainty that may materially impact the Mineral Resource estimate include:

- Commodity price assumptions
- Metal recovery assumptions
- Mining and processing cost assumptions

There are no other known factors or issues known to the QP that materially affect the estimate other than normal risks faced by mining projects in the province of British Columbia in terms of environmental, permitting, taxation, socio-economic, marketing, and political factors.

14.13 Risk Assessment

A description of potential risk factors is given in Table 14-24 along with either the justification for the approach taken or mitigating factors in place to reduce any risk.

Table 14-24 List of Risks and Mitigations/Justifications

#	Description	Justification/Mitigation
1	Classification Criteria	Classification based on the Range of the Variogram and therefore the variability of the mineralization within each deposit.
2	Metal Price Assumptions	Based on three-year trailing average (Kitco, 2024) and recent Ni43-101 resource filings.
3	Capping	CPP, swath plots and grade-tonnage curves show model validates well with composite data throughout the grade distribution.
4	Processing and Mining Costs	Based on comparable projects in BC.

15.0 Mineral Reserve Estimates

Not applicable.

16.0 Mining Method

Not applicable.

17.0 Recovery Methods

Not applicable.

18.0 Project Infrastructure

Not applicable.

19.0 Market Studies and Contracts

Not applicable.

20.0 Environmental Studies, Permitting and Social or Community Impact

Not applicable.

21.0 Capital and Operating Costs

Not applicable.

22.0 Economic Analysis

Not applicable.

23.0 Adjacent Properties

Not applicable.

24.0 Other Relevant Data and Information

There is no other data or information relevant to the resource estimate.

25.0 Interpretation and Conclusions

25.1 Geology

Interpretation of the main lithologies and alteration types is considered appropriate for this level of study. The geologic modelling has been used to inform the mineralized shapes.

25.2 Data Verification

Data has been verified by assay certificate checks, a site visit and statistical validation of historic data. All drillhole assay data that has been used for the Mineral Resource Estimates is considered to be validated to a level sufficient for the resource material as classified.

25.3 Metallurgical Testwork

The recoveries used for Resource estimate are reasonable for this level of study based on the metallurgical testing to date.

25.4 Resource Estimate

In the opinion of the QP the block model resource estimate and resource classification reported herein are a reasonable representation of the global gold, copper, molybdenum and rhenium found in the North Island Project deposits: Hushamu, Northwest Expo and Red Dog. Mineral resources are not mineral reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the mineral resource will be converted into mineral reserves.

26.0 Recommendations

26.1 Sample Preparation, Analyses and Security

The QP recommends the following for future drilling campaigns:

- Continued usage of a purchased coarse limestone blank to avoid the variability in certain background concentrations, for instance Cu.
- Select reference materials that are made from comparable porphyry copper materials and are certified for Au, Cu, Mo, and Re. Choose at least 3 different standards, ideally a low-grade, a medium-grade, and high-grade standard.
- Select approx. 10% of returned pulps for check-assaying at a secondary independent laboratory and chose an analysis method like the primary lab's method. Assure that all grade ranges are respected.

26.2 Data Verification

The QP recommends the following for the current assay database:

- Import all available data, including the check-assay data and the "a" and "b" samples of 2008.
- Consider selecting ca. 100 pulps of the 2022 drill campaign for a check-assay program at ALS or Bureau Veritas since SGS was the primary laboratory that year.
- Continue updating the database by identifying, reviewing, and reclassifying single core, blank, standard, or duplicate mislabels. Use a multi-element approach and a sample weight-to-sample interval ratio as guides.

26.3 Metallurgy

Metallurgical recommendations include:

- Collect and test samples across the Hushamu deposit with a greater range of pyrite to copper sulphide ratios. Relate this performance back to an improved knowledge of sulphur grades across the deposit.
- Collect and test samples that provide a wider spatial and lithology coverage of the Northwest Expo and Red Dog deposits.
- Investigate alternate flowsheet conditions that could improve copper recoveries across the cleaner circuit for samples with high ratios of pyrite to copper sulphides.
- Demonstrate the potential to generate a molybdenum concentrate with Cu-Mo separation circuit testing.

26.4 Further Studies

It is recommended to proceed to a Preliminary Economic Assessment based on the three current resource estimates for Hushamu, Northwest Expo and Red Dog. This work has been initiated with an expected cost of CDN\$1.0M and an expected completion in the first quarter of 2025.

26.5 Exploration and Resource

26.5.1 Hushamu

At the Hushamu, recommendations include:

- In-fill drilling to increase the confidence and classification of the mineralization
- Extension drilling at depth and along strike to extend the mineralization.

26.5.2 Northwest Expo

For the Northwest Expo deposit the following recommendations are made:

- Infill and step-out drilling to the north and south of the current deposit to potentially upgrade the classification of the current resource estimate and to potentially increase the resource.

26.5.3 Red Dog

For the Red Dog deposit, the following recommendations are made:

- Infill and step-out drilling to the north and south of the deposit. This drilling should be done to potentially upgrade the classification of the current resource estimate and to potentially increase the resource.

26.5.4 Goodspeed

For the Goodspeed area, the following recommendations are made:

- Infill drilling and step-out drilling to the northwest, southeast, and in other directions from the existing footprint. This drilling should be done with a view to determining the extents of this mineralization and providing sufficient drill density to create an initial resource estimate.

26.6 Exploration Program and Budget

It is recommended to continue ground based geochemical and geophysical studies as well as in-fill and exploration drilling at the three deposits as well as West Goodspeed and other targets within the North Island Project. The recommended exploration budget for the work is summarized in the table below.

Table 26-1 Recommended Exploration Budget

Exploration Item	Cost (CDN\$)
Geochemical	\$500,000
Geophysics - IP	\$500,000
Drilling	9,000,000
Total	\$10,000,000

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APPENDIX A – CLAIM INFORMATION

#	Title Number	Claim Name	Map Number	Issue Date	Good To Date	Status	Area (ha)
1	232276	EXPO 1011 FR	092L	1968/DEC/05	2030/DEC/11	GOOD	25.0
2	232277	EXPO 1012 FR	092L	1968/DEC/05	2030/DEC/11	GOOD	25.0
3	232306	DON 9 FR.	092L	1969/NOV/21	2030/DEC/11	GOOD	25.0
4	232307	DON 10 FR.	092L	1969/NOV/21	2030/DEC/11	GOOD	25.0
5	232309	DON 12 FR.	092L	1969/NOV/21	2030/DEC/11	GOOD	25.0
6	374744	APPLE BAY FOUR	092L	2000/MAR/11	2030/DEC/11	GOOD	400.0
7	377240	APPLE BAY TWO	092L	2000/MAY/17	2030/DEC/11	GOOD	500.0
8	394718	APPLE BAY NINETEEN	092L	2002/JUL/05	2030/DEC/11	GOOD	500.0
9	398335	APPLE BAY TWENTY	092L	2002/NOV/16	2030/DEC/11	GOOD	500.0
10	402033	APPLE BAY TWENTY-THREE	092L	2003/APR/26	2030/DEC/11	GOOD	400.0
11	402037	APPLE BAY TWENTY-SEVEN	092L	2003/APR/29	2030/DEC/11	GOOD	250.0
12	402513	NORTHWEST 900	092L	2003/MAY/27	2030/DEC/11	GOOD	250.0
13	405216	NORTHWEST 901	102I	2003/SEP/19	2030/DEC/11	GOOD	25.0
14	501677		092L	2005/JAN/12	2030/DEC/11	GOOD	81.854
15	513926		092L	2005/JUN/04	2030/DEC/11	GOOD	286.505
16	513927		092L	2005/JUN/04	2030/DEC/11	GOOD	409.297
17	513929		092L	2005/JUN/04	2030/DEC/11	GOOD	430.364
18	513930		092L	2005/JUN/04	2030/DEC/11	GOOD	389.316
19	515285		092L	2005/JUN/25	2030/DEC/11	GOOD	102.424
20	515313		092L	2005/JUN/26	2030/DEC/11	GOOD	163.85
21	515593		092L	2005/JUN/30	2030/DEC/11	GOOD	656.144
22	515594		092L	2005/JUN/30	2030/DEC/11	GOOD	164.031
23	515595		092L	2005/JUN/30	2030/DEC/11	GOOD	615.08
24	515596		092L	2005/JUN/30	2030/DEC/11	GOOD	451.075
25	516074		092L	2005/JUL/05	2030/DEC/11	GOOD	553.632
26	516075		092L	2005/JUL/05	2030/DEC/11	GOOD	102.382
27	516076		092L	2005/JUL/05	2030/DEC/11	GOOD	245.871
28	516077		092L	2005/JUL/05	2030/DEC/11	GOOD	389.645
29	516078		092L	2005/JUL/05	2030/DEC/11	GOOD	286.991
30	517213	HOLBERG	092L	2005/JUL/12	2030/DEC/11	GOOD	143.523
31	518531		092L	2005/JUL/29	2031/APR/01	GOOD	511.762
32	229791	EXPO 1015 FR.	092L	1983/AUG/22	2031/DEC/11	GOOD	25.0
33	231651	HEP #36	092L	1966/SEP/20	2031/DEC/11	GOOD	25.0
34	231667	HEP #54	092L	1966/SEP/20	2031/DEC/11	GOOD	25.0
35	231668	HEP #55	092L	1966/SEP/20	2031/DEC/11	GOOD	25.0
36	231669	HEP #56	092L	1966/SEP/20	2031/DEC/11	GOOD	25.0
37	231671	HEP #58	092L	1966/SEP/20	2031/DEC/11	GOOD	25.0
38	231672	HEP #59	092L	1966/SEP/20	2031/DEC/11	GOOD	25.0
39	513931		092L	2005/JUN/04	2031/DEC/11	GOOD	696.946
40	515275		092L	2005/JUN/25	2031/DEC/11	GOOD	470.906
41	515276		092L	2005/JUN/25	2031/DEC/11	GOOD	655.547
42	515277		092L	2005/JUN/25	2031/DEC/11	GOOD	245.854
43	515278		092L	2005/JUN/25	2031/DEC/11	GOOD	655.917
44	515279		092L	2005/JUN/25	2031/DEC/11	GOOD	184.473
45	515280		092L	2005/JUN/25	2031/DEC/11	GOOD	471.442

#	Title Number	Claim Name	Map Number	Issue Date	Good To Date	Status	Area (ha)
46	515281		092L	2005/JUN/25	2031/DEC/11	GOOD	614.929
47	515282		092L	2005/JUN/25	2031/DEC/11	GOOD	676.187
48	515283		092L	2005/JUN/25	2031/DEC/11	GOOD	553.442
49	515284		092L	2005/JUN/25	2031/DEC/11	GOOD	902.618
50	516079	QUATSE LAKE TOO	092L	2005/JUL/05	2031/DEC/11	GOOD	143.488
51	516081		102I	2005/JUL/05	2031/DEC/11	GOOD	491.182
52	516527		092L	2005/JUL/09	2031/DEC/11	GOOD	163.942
53	516529	APPLE BAY 9PLUS	092L	2005/JUL/09	2031/DEC/11	GOOD	20.49
54	516930	NORTH RG	092L	2005/JUL/11	2031/DEC/11	GOOD	204.535
55	517055	NEW 402513	092L	2005/JUL/12	2031/DEC/11	GOOD	143.2
56	517076	NEW RD	092L	2005/JUL/12	2031/DEC/11	GOOD	20.462
57	517123	RD NORTHEAST	092L	2005/JUL/12	2031/DEC/11	GOOD	204.601
58	517236	NUMMMIS	092L	2005/JUL/12	2031/DEC/11	GOOD	41.018
59	517541	APPLE BAY TEN	092L	2005/JUL/12	2031/DEC/11	GOOD	20.508
60	525702	HUSHAMU NORTHEAST	092L	2006/JAN/17	2031/DEC/11	GOOD	307.117
61	512966		092L	2005/MAY/18	2031/JAN/12	GOOD	61.479
62	512972		092L	2005/MAY/18	2031/JAN/12	GOOD	81.949
63	513006		092L	2005/MAY/19	2031/JAN/12	GOOD	20.49
64	513057		092L	2005/MAY/19	2031/JAN/12	GOOD	40.957
65	513072		092L	2005/MAY/19	2031/JAN/12	GOOD	81.934
66	513091		092L	2005/MAY/19	2031/JAN/12	GOOD	61.432
67	513107		092L	2005/MAY/19	2031/JAN/12	GOOD	40.948
68	512952		092L	2005/MAY/18	2031/JAN/13	GOOD	81.972
69	512963		092L	2005/MAY/18	2031/JAN/13	GOOD	81.972
70	512964		092L	2005/MAY/18	2031/JAN/13	GOOD	81.971
71	512967		092L	2005/MAY/18	2031/JAN/13	GOOD	61.478
72	512968		092L	2005/MAY/18	2031/JAN/13	GOOD	61.471
73	512980		092L	2005/MAY/19	2031/JAN/13	GOOD	81.933
74	512983		092L	2005/MAY/19	2031/JAN/13	GOOD	81.948
75	512984		092L	2005/MAY/19	2031/JAN/13	GOOD	40.969
76	512986		092L	2005/MAY/19	2031/JAN/13	GOOD	40.96
77	512988		092L	2005/MAY/19	2031/JAN/13	GOOD	40.961
78	512989		092L	2005/MAY/19	2031/JAN/13	GOOD	20.48
79	512990		092L	2005/MAY/19	2031/JAN/13	GOOD	40.964
80	512993		092L	2005/MAY/19	2031/JAN/13	GOOD	40.969
81	512994		092L	2005/MAY/19	2031/JAN/13	GOOD	81.957
82	512996		092L	2005/MAY/19	2031/JAN/13	GOOD	81.957
83	512999		092L	2005/MAY/19	2031/JAN/13	GOOD	40.973
84	513013		092L	2005/MAY/19	2031/JAN/13	GOOD	40.967
85	513026		092L	2005/MAY/19	2031/JAN/13	GOOD	20.486
86	513053		092L	2005/MAY/19	2031/JAN/13	GOOD	61.439
87	513060		092L	2005/MAY/19	2031/JAN/13	GOOD	40.964
88	513062		092L	2005/MAY/19	2031/JAN/13	GOOD	40.97
89	513065		092L	2005/MAY/19	2031/JAN/13	GOOD	61.458
90	513066		092L	2005/MAY/19	2031/JAN/13	GOOD	20.487
91	513067		092L	2005/MAY/19	2031/JAN/13	GOOD	81.957

#	Title Number	Claim Name	Map Number	Issue Date	Good To Date	Status	Area (ha)
92	513068		092L	2005/MAY/19	2031/JAN/13	GOOD	81.965
93	513071		092L	2005/MAY/19	2031/JAN/13	GOOD	81.951
94	513075		092L	2005/MAY/19	2031/JAN/13	GOOD	61.443
95	513076		092L	2005/MAY/19	2031/JAN/13	GOOD	40.961
96	513077		092L	2005/MAY/19	2031/JAN/13	GOOD	20.48
97	513078		092L	2005/MAY/19	2031/JAN/13	GOOD	81.934
98	513080		092L	2005/MAY/19	2031/JAN/13	GOOD	20.487
99	513082		092L	2005/MAY/19	2031/JAN/13	GOOD	40.957
100	513086		092L	2005/MAY/19	2031/JAN/13	GOOD	20.479
101	513087		092L	2005/MAY/19	2031/JAN/13	GOOD	40.953
102	513089		092L	2005/MAY/19	2031/JAN/13	GOOD	40.953
103	513090		092L	2005/MAY/19	2031/JAN/13	GOOD	40.957
104	513092		092L	2005/MAY/19	2031/JAN/13	GOOD	40.95
105	513093		092L	2005/MAY/19	2031/JAN/13	GOOD	81.896
106	513094		092L	2005/MAY/19	2031/JAN/13	GOOD	81.881
107	513104		092L	2005/MAY/19	2031/JAN/13	GOOD	20.471
108	513108		092L	2005/MAY/19	2031/JAN/13	GOOD	40.962
109	513109		092L	2005/MAY/19	2031/JAN/13	GOOD	184.29
110	513172		092L	2005/MAY/21	2031/JAN/13	GOOD	40.981
111	1091007		092L	2022/JAN/26	2031/JAN/26	GOOD	347.9767
112	1091013		092L	2022/JAN/26	2031/JAN/26	GOOD	40.9458
113	1091017		092L	2022/JAN/26	2031/JAN/26	GOOD	82.0464
114	232310	DON 13 FR.	092L	1969/NOV/21	2031/MAR/11	GOOD	25.0
115	231680	RED DOG 1	092L	1966/DEC/13	2031/MAY/23	GOOD	25.0
116	231681	RED DOG 2	092L	1966/DEC/13	2031/MAY/23	GOOD	25.0
117	231682	RED DOG 3	092L	1966/DEC/13	2031/MAY/23	GOOD	25.0
118	512122	FILL 25	092L	2005/MAY/05	2032/APR/01	GOOD	245.745
119	512085	FILL 1	092L	2005/MAY/05	2032/DEC/01	GOOD	511.669
120	512087	FILL 2	092L	2005/MAY/05	2032/DEC/01	GOOD	511.897
121	512088	FILL 3	092L	2005/MAY/05	2032/DEC/01	GOOD	143.38
122	512089	FILL 4	092L	2005/MAY/05	2032/DEC/01	GOOD	511.951
123	512091	FILL 5	092L	2005/MAY/05	2032/DEC/01	GOOD	511.956
124	512092	FILL 6	092L	2005/MAY/05	2032/DEC/01	GOOD	512.075
125	512093	FILL 7	092L	2005/MAY/05	2032/DEC/01	GOOD	512.204
126	512094	FILL 8	092L	2005/MAY/05	2032/DEC/01	GOOD	512.233
127	512095	FILL 9	092L	2005/MAY/05	2032/DEC/01	GOOD	163.886
128	512102	FILL 11	092L	2005/MAY/05	2032/DEC/01	GOOD	225.594
129	512104	FILL 13	092L	2005/MAY/05	2032/DEC/01	GOOD	430.721
130	512105	FILL 14	092L	2005/MAY/05	2032/DEC/01	GOOD	328.072
131	512107	FILL 15	092L	2005/MAY/05	2032/DEC/01	GOOD	61.509
132	512108	FILL 15	092L	2005/MAY/05	2032/DEC/01	GOOD	512.246
133	512109	FILL 16	092L	2005/MAY/05	2032/DEC/01	GOOD	512.216
134	512110	FILL 17	092L	2005/MAY/05	2032/DEC/01	GOOD	511.954
135	512111	FILL 18	092L	2005/MAY/05	2032/DEC/01	GOOD	511.845
136	512113	FILL 18	092L	2005/MAY/05	2032/DEC/01	GOOD	512.037
137	512114	FILL 19	092L	2005/MAY/05	2032/DEC/01	GOOD	511.872

#	Title Number	Claim Name	Map Number	Issue Date	Good To Date	Status	Area (ha)
138	512115	FILL 20	102I	2005/MAY/05	2032/DEC/01	GOOD	368.512
139	512116	FILL 21	102I	2005/MAY/05	2032/DEC/01	GOOD	225.109
140	512117	FILL 22	092L	2005/MAY/05	2032/DEC/01	GOOD	122.759
141	512118	FILL 23	092L	2005/MAY/05	2032/DEC/01	GOOD	164.174
142	512120	FILL 24	092L	2005/MAY/05	2032/DEC/01	GOOD	245.798
143	231933	EXPO 190	092L	1967/OCT/10	2032/DEC/11	GOOD	25.0
144	231934	EXPO 191	092L	1967/OCT/10	2032/DEC/11	GOOD	25.0
145	231961	EXPO 218	092L	1967/OCT/10	2032/DEC/11	GOOD	25.0
146	231963	EXPO 220	092L	1967/OCT/10	2032/DEC/11	GOOD	25.0
147	231965	EXPO 222	092L	1967/OCT/10	2032/DEC/11	GOOD	25.0
148	231966	EXPO 223	092L	1967/OCT/10	2032/DEC/11	GOOD	25.0
149	231968	EXPO 225	092L	1967/OCT/10	2032/DEC/11	GOOD	25.0
150	231980	EXPO 227	092L	1967/OCT/19	2032/DEC/11	GOOD	25.0
151	231982	EXPO 229	092L	1967/OCT/19	2032/DEC/11	GOOD	25.0
152	231984	EXPO 231	092L	1967/OCT/19	2032/DEC/11	GOOD	25.0
153	231990	EXPO 237	092L	1967/OCT/19	2032/DEC/11	GOOD	25.0
154	231991	EXPO 238	092L	1967/OCT/19	2032/DEC/11	GOOD	25.0
155	231995	EXPO 242	092L	1967/OCT/19	2032/DEC/11	GOOD	25.0
156	231997	EXPO 244	092L	1967/OCT/19	2032/DEC/11	GOOD	25.0
157	232000	EXPO 247	092L	1967/OCT/19	2032/DEC/11	GOOD	25.0
158	232001	EXPO 248	092L	1967/OCT/19	2032/DEC/11	GOOD	25.0
159	232002	EXPO 249	092L	1967/OCT/19	2032/DEC/11	GOOD	25.0
160	232004	EXPO 251	092L	1967/OCT/19	2032/DEC/11	GOOD	25.0
161	232005	EXPO 252	092L	1967/OCT/19	2032/DEC/11	GOOD	25.0
162	232006	EXPO 253	092L	1967/OCT/19	2032/DEC/11	GOOD	25.0
163	232007	EXPO 254	092L	1967/OCT/19	2032/DEC/11	GOOD	25.0
164	232008	EXPO 255	092L	1967/OCT/19	2032/DEC/11	GOOD	25.0
165	232011	EXPO 258	092L	1967/OCT/19	2032/DEC/11	GOOD	25.0
166	232015	EXPO 262	092L	1967/OCT/19	2032/DEC/11	GOOD	25.0
167	232017	EXPO 264	092L	1967/OCT/19	2032/DEC/11	GOOD	25.0
168	232019	EXPO 266	092L	1967/OCT/19	2032/DEC/11	GOOD	25.0
169	232020	EXPO 267	092L	1967/OCT/19	2032/DEC/11	GOOD	25.0
170	232021	EXPO 268	092L	1967/OCT/19	2032/DEC/11	GOOD	25.0
171	232022	EXPO 269	092L	1967/OCT/19	2032/DEC/11	GOOD	25.0
172	232024	EXPO 271	092L	1967/OCT/19	2032/DEC/11	GOOD	25.0
173	232025	EXPO 272	092L	1967/OCT/19	2032/DEC/11	GOOD	25.0
174	232026	EXPO 273	092L	1967/OCT/19	2032/DEC/11	GOOD	25.0
175	232027	EXPO 274	092L	1967/OCT/19	2032/DEC/11	GOOD	25.0
176	232028	EXPO 275	092L	1967/OCT/19	2032/DEC/11	GOOD	25.0
177	232030	EXPO 278	092L	1967/OCT/19	2032/DEC/11	GOOD	25.0
178	232037	EXPO 285	092L	1967/OCT/19	2032/DEC/11	GOOD	25.0
179	232041	EXPO 289	092L	1967/OCT/19	2032/DEC/11	GOOD	25.0
180	232044	EXPO 292	092L	1967/OCT/19	2032/DEC/11	GOOD	25.0
181	232045	EXPO 293	092L	1967/OCT/19	2032/DEC/11	GOOD	25.0
182	232046	EXPO 294	092L	1967/OCT/19	2032/DEC/11	GOOD	25.0
183	232105	EXPO 312	092L	1967/NOV/13	2032/DEC/11	GOOD	25.0

#	Title Number	Claim Name	Map Number	Issue Date	Good To Date	Status	Area (ha)
184	232107	EXPO 314	092L	1967/NOV/13	2032/DEC/11	GOOD	25.0
185	232220	EXPO 326	092L	1967/DEC/18	2032/DEC/11	GOOD	25.0
186	232228	EXPO 504 FR	092L	1967/DEC/18	2032/DEC/11	GOOD	25.0
187	232275	EXPO 1008 FR	092L	1968/DEC/05	2032/DEC/11	GOOD	25.0
188	232308	DON 11 FR.	092L	1969/NOV/21	2032/DEC/11	GOOD	25.0
189	371777	APPLE BAY THREE	092L	1999/SEP/18	2032/DEC/11	GOOD	200.0
190	506021	Wanakana Central	092L	2005/FEB/06	2032/DEC/11	GOOD	348.306
191	512096	FILL 10	092L	2005/MAY/05	2032/DEC/11	GOOD	512.77
192	513758	RED DOG NORTH	092L	2005/JUN/01	2032/DEC/11	GOOD	429.609
193	513760	HEP 2.2	092L	2005/JUN/01	2032/DEC/11	GOOD	20.464
194	513909		092L	2005/JUN/03	2032/DEC/11	GOOD	511.699
195	513910		092L	2005/JUN/03	2032/DEC/11	GOOD	347.912
196	513911		092L	2005/JUN/03	2032/DEC/11	GOOD	61.383
197	513912		102I	2005/JUN/03	2032/DEC/11	GOOD	40.921
198	513913		102I	2005/JUN/03	2032/DEC/11	GOOD	20.461
199	513914		092L	2005/JUN/03	2032/DEC/11	GOOD	81.853
200	231683	RED DOG 4	092L	1966/DEC/13	2032/MAY/23	GOOD	25.0
201	231684	RED DOG 5	092L	1966/DEC/13	2032/MAY/23	GOOD	25.0
202	231685	RED DOG 6	092L	1966/DEC/13	2032/MAY/23	GOOD	25.0
203	231686	RED DOG 7	092L	1966/DEC/13	2032/MAY/23	GOOD	25.0
204	231687	RED DOG 8	092L	1966/DEC/13	2032/MAY/23	GOOD	25.0
205	231688	RED DOG 9	092L	1966/DEC/13	2032/MAY/23	GOOD	25.0
206	231690	RED DOG 11	092L	1966/DEC/13	2032/MAY/23	GOOD	25.0
207	231691	RED DOG 12	092L	1966/DEC/13	2032/MAY/23	GOOD	25.0
208	231703	RED DOG 14	092L	1967/MAY/23	2032/MAY/23	GOOD	25.0
209	231704	RED DOG FR.	092L	1967/MAY/23	2032/MAY/23	GOOD	25.0
210	232212	RED DOG 29 FR	092L	1967/DEC/01	2032/MAY/23	GOOD	25.0
211	232271	RED DOG 13 FR.	092L	1968/JUN/17	2032/MAY/23	GOOD	25.0
212	1085474	SAM	092L	2021/NOV/15	2032/NOV/15	GOOD	327.2031
213	231689	RED DOG 10	092L	1966/DEC/13	2033/MAY/23	GOOD	25.0
214	1019755		092L	2013/MAY/24	2033/OCT/11	GOOD	81.8475