## Technical Report Minto Mine, Yukon

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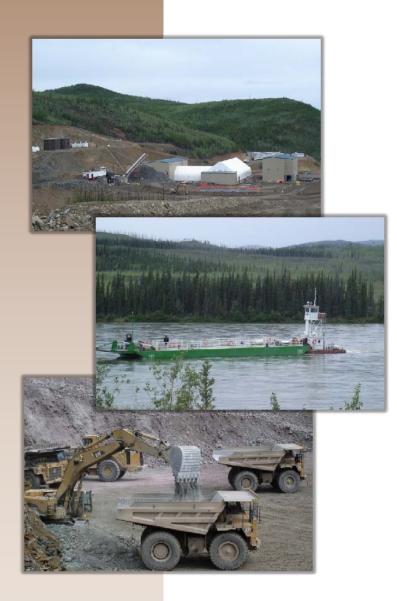
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Prepared by:



Project No. 2CS018.007

June 30, 2008



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Cover Photos: Top: Minto Mill, concentrate storage (white) and tailings filter buildings Middle: "Copper Queen" tug and barge crossing the Yukon River Bottom: Pelly mining equipment operating in the Minto Main Pit

### **Table of Contents**

1	Executive Summary	1
2	Introduction	14
3	Reliance on Other Experts	15
4	Property Description and Location           4.1 References	
5	<ul> <li>Accessibility, Climate, Local Resources, Infrastructure and Physiography</li> <li>5.1 Accessibility</li> <li>5.2 Climate</li> <li>5.3 Local Resources and Infrastructure</li> </ul>	24 25 25
6	5.4 Physiography	
6	History	28 31 31 34
7	Geological Setting.         7.1 Regional Geology.         7.2 Property Geology and Lithological Description	36 39 39
8	Deposit Types	43
9	Mineralization         9.1       Mineralization         9.2       Alteration, Weathering and Oxidation         9.3       Additional Mineralization Targets         9.3.1       Ridge Top         9.3.2       Area 2         9.3.3       Airstrip         9.3.4       Connector         9.3.5       DEF	44 45 45 47 48 50 51
10	Exploration	
11	Drilling	62
12	Sampling Method and Approach 12.1 1973 to 2001 12.2 2005 to 2006 (MintoEx) 12.3 2007 (MintoEx)	67 67

13	Sample Preparation, Analyses and Security	69
	13.1 Historic Samples	
	13.1.1 ASARCO 1971 to 1974	
	13.1.2 TECK 1993 to 2001	
	13.1.3 MintoEx 2005 and 2006 Samples	
	13.1.4 MintoEx 2007 Samples	
	13.2 Standard Reference Material	
	13.2.1 SRM CDNCGS07	
	13.2.2 SRM CDNCGS08	
	13.2.3 SRM CDNCGS09 13.2.4 SRM CDNCGS10	
	13.2.5 SRM CDNCGS10	
	13.2.6 SRM CDNCGS12	
	13.2.7 SRM CDNCGS13	
	13.2.8 SRM WCM-Cu128	
	13.2.9 SRM OREAS-95	
	13.2.10 Blanks	86
	13.2.11 Duplicate Samples	87
	13.3 Between Lab Duplicates	
14	Data Verification	
	14.1 1973 to 2001	
	14.2 MintoEx 2005 and 2006	
	14.3 MintoEx 2007	
15	Adjacent Properties	101
16	Mineral Processing and Metallurgical Testing	
	16.1 Mill Capacity	
	16.2 Introduction	
	16.2.1 Primary Crusher	
	16.2.2 Grinding Circuit	
	16.2.3 Flotation	
	16.2.4 Dewatering 16.2.5 Filtered Tailings	
	TO.Z.5 Fillered Tallings	
17	Mineral Resource and Mineral Reserve Estimates	107
.,	17.1 Historical Estimates	
	17.2 Minto Mine Main Deposit Resource Estimation Methodology	
	17.2.1 Drill Hole Data	
	17.2.2 Capping	
	17.2.3 Compositing	
	17.2.4 Block Model Definition	
	17.2.5 Bulk Density Values	
	17.2.6 Variography	113
	17.2.7 Search Parameters	
	17.2.8 Validation	115
	17.2.9 Resource Estimation Results for the Minto Mine Main Deposit	
	17.3 Area 2 and Area 118 Resource Estimation Methodology	
	17.3.1 Geology Model	
	17.3.2 Drill Hole Data Analysis	
	17.3.3 Evaluation of Extreme Grades	
	17.3.4 Compositing	101
	17.3.5 Block Model Definition 17.3.6 Bulk Density Values	132

	17.3.7 Variography	
	17.3.8 Grade Model and Interpolation Plan	.134
	17.3.9 Model Validation	.136
	17.3.10 Resource Classification and Summary	.138
	17.4 Ridgetop Deposit Resource Estimation Methodology	149
	17.4.1 Geology Model	.149
	17.4.2 Drill Hole Data Analysis	
	17.4.3 Evaluation of Extreme Grades	
	17.4.4 Compositing	
	17.4.5 Block Model Definition	
	17.4.6 Bulk Density Values	
	17.4.7 Grade Model and Interpolation Plan	.157
	17.4.8 Model Validation	
	17.4.9 Resource Classification and Summary	.159
	17.5 Minto Mine Main Deposit Mineral Reserves	
18	Other Relevant Data and Information	164
10	18.2 Reconciliation of Reserves	
		105
40	Additional Demains whether Technical Demants are Development Demantics and	
19	Additional Requirements for Technical Reports on Development Properties an	
	Production Properties	166
	19.1 Mine Operating Plan	166
	19.1.1 Mine Design	.166
	19.1.2 Mine Operation	.169
	19.1.3 Production Schedule	.170
	19.2 Recoverability	
	19.3 Markets	
	19.3.1 Concentrate Sales	
	19.3.2 Metal Price Contract	.182
	19.3.2 Metal Price Contract	.182 183
	19.3.2 Metal Price Contract 19.4 Contracts 19.5 Environmental Considerations	.182 183 184
	<ul> <li>19.3.2 Metal Price Contract</li> <li>19.4 Contracts</li> <li>19.5 Environmental Considerations</li></ul>	.182 183 184 .184
	<ul> <li>19.3.2 Metal Price Contract</li> <li>19.4 Contracts</li> <li>19.5 Environmental Considerations</li></ul>	.182 183 184 .184
	<ul> <li>19.3.2 Metal Price Contract</li></ul>	.182 183 184 .184 .186
	<ul> <li>19.3.2 Metal Price Contract</li></ul>	.182 183 184 .184 .186 189
	<ul> <li>19.3.2 Metal Price Contract</li></ul>	.182 183 184 .184 .186 189 .189
	<ul> <li>19.3.2 Metal Price Contract</li></ul>	.182 183 184 .184 .186 189 .189 .191
	<ul> <li>19.3.2 Metal Price Contract</li></ul>	.182 183 184 .184 .186 189 .189 .191 192
	<ul> <li>19.3.2 Metal Price Contract</li></ul>	.182 183 184 .184 .186 189 .189 .191 192 .192
	<ul> <li>19.3.2 Metal Price Contract</li></ul>	.182 183 184 .184 .186 .189 .189 .191 192 .192 .193
	<ul> <li>19.3.2 Metal Price Contract</li></ul>	.182 183 184 .184 .186 189 .189 .191 192 .192 .193 .197
	<ul> <li>19.3.2 Metal Price Contract</li></ul>	.182 183 184 .184 .186 189 .189 .191 192 .192 .193 .197 .199
	<ul> <li>19.3.2 Metal Price Contract</li></ul>	.182 183 184 .184 .186 189 .189 .191 192 .192 .193 .197 .199 200
	<ul> <li>19.3.2 Metal Price Contract</li></ul>	.182 183 184 .184 .186 189 .189 .191 192 .192 .193 .197 .199 200
	<ul> <li>19.3.2 Metal Price Contract</li></ul>	.182 183 184 .184 .186 189 .189 .191 192 .192 .193 .197 .199 200 200
20	<ul> <li>19.3.2 Metal Price Contract</li></ul>	.182 183 184 .184 .186 189 .189 .191 192 .192 .193 .197 .199 200 200
20	<ul> <li>19.3.2 Metal Price Contract</li></ul>	.182 183 184 .184 .186 189 .189 .191 192 .192 .193 .197 .199 200 200
20	<ul> <li>19.3.2 Metal Price Contract</li></ul>	.182 183 184 .184 .186 189 .189 .191 192 .193 .197 .199 200 200 <b>201</b>
20	<ul> <li>19.3.2 Metal Price Contract.</li> <li>19.4 Contracts.</li> <li>19.5 Environmental Considerations <ul> <li>19.5.1 Environmental Assessment and Permitting</li> <li>19.5.2 Closure Plan.</li> </ul> </li> <li>19.6 Taxes 188 <ul> <li>19.7 Capital and Operating Costs</li> <li>19.7.1 Operating Costs ("OPEX").</li> <li>19.7.2 Capital ("CAPEX") Costs</li> </ul> </li> <li>19.8 Economic Analysis <ul> <li>19.8.1 Assumptions</li> <li>19.8.2 Economic Results.</li> <li>19.8.3 Sensitivities.</li> <li>19.8.4 Comments</li> </ul> </li> <li>19.9 Payback <ul> <li>19.10 Mine Life</li> </ul> </li> </ul>	.182 183 184 .184 .186 189 .189 .191 192 .193 .197 .199 200 200 <b>201</b>
	<ul> <li>19.3.2 Metal Price Contract.</li> <li>19.4 Contracts.</li> <li>19.5 Environmental Considerations</li> <li>19.5.1 Environmental Assessment and Permitting</li> <li>19.5.2 Closure Plan.</li> <li>19.6 Taxes 188</li> <li>19.7 Capital and Operating Costs .</li> <li>19.7.1 Operating Costs ("OPEX")</li> <li>19.7.2 Capital ("CAPEX") Costs</li> <li>19.8 Economic Analysis</li> <li>19.8.1 Assumptions.</li> <li>19.8.2 Economic Results.</li> <li>19.8.3 Sensitivities</li> <li>19.8.4 Comments</li> <li>19.9 Payback</li> <li>19.10 Mine Life</li> </ul>	.182 183 184 .184 .186 189 .189 .191 192 .192 .193 .197 .199 200 200 <b>201</b> 201
	19.3.2 Metal Price Contract	.182 183 184 .184 .186 189 .189 .191 192 .192 .193 .197 .199 200 200 <b>201</b> 201 201
	<ul> <li>19.3.2 Metal Price Contract</li></ul>	.182 183 184 .184 .186 189 .189 .191 192 .192 .193 .197 .199 200 200 <b>201</b> 201 201 203
	19.3.2 Metal Price Contract	.182 183 184 .184 .184 .186 189 .191 192 .192 .193 .197 .199 200 200 <b>201</b> 201 <b>201</b> 203 203 203
	<ul> <li>19.3.2 Metal Price Contract</li></ul>	.182 183 184 .184 .184 .186 189 .191 192 .192 .193 .197 .199 200 200 <b>201</b> 201 203 203 203 203 203

22 Illustrations	204
23 References	205
24 Standard Acronyms and Abbreviations	209
25 Date and Signature Page	210

### List of Tables

Table 12: Minto – Mineral Reserves by Class for Main Pit (at 0.62% Cu Cut-off)	Table 1.1: Minto – Mineral Reserves by Class for Main/Area 2 (at 0.62% Cu cut-off)	4
Table 1.4: LOM Mine Production Schedule.       5         Table 1.6: Summary of Area 2 Mineral Resources (Inclusive of Mineral Reserves)	Table 1.2: Minto – Mineral Reserves by Class for Main Pit (at 0.62% Cu Cut-off)	4
<ul> <li>Table 1.5: Summary of Minto Deposit Mineral Resources (Inclusive of Mineral Reserves)</li></ul>	Table 1.3: Minto – Mineral Reserves by Class for Area 2 (at 0.62% Cu Cut-off)	4
Table 1.6: Summary of Area 2 Mineral Resources (Inclusive of Mineral Reserves).       .7         Table 1.7: Summary of Resource Estimation Results for the Minto Project at 0.50% Cu cut-off and Other % Cu Cut-offs Included for Comparative Purposes.       .9         Table 1.8: Summary of Forward Sales Contract Metal Pricing Assumptions.       .11         Table 1.9: Summary of Case 1 Non-contract Metal Pricing Assumptions.       .11         Table 2.1: OP Site Visits       .14         Table 2.1: Curp Sate Visits       .14         Table 4.1: Claim Status (from Whitehorse Mining District Recorder, Glenna Southwick, 5 April 2006).       .17         Table 6.2: Summary of Drill Holes Included in the Resource Estimation.       .31         Table 6.3: Historical Tonnage & Grade Estimates of the Minto Deposit.       .35         Table 9.1: Some Weighed Average Assay Interval Highlights from Ridge Top Historical Drilling.       .47         Table 9.2: Some Weighed Average Assay Interval Highlights from 06SWC-074-Zone 2-2006       Drilling.         Drilling.       .49       .49         Table 9.4: Some Weighed Average Assay Interval Highlights from OSWC-074-Zone 2-2006       Drilling.         Drilling.       .50       .50         Table 9.5: Some Weighed Average Assay Interval Highlights from OSWC-074-Zone 2-2006       .51         Table 9.5: Some Keighed Assay Interval Highlights from DEF Area Drilling.       .52         Table 9.5:	Table 1.4: LOM Mine Production Schedule	5
Table 1.7: Summary of Resource Estimation Results for the Minto Project at 0.50% Cu cut-off and Other % Cu Cut-offs Included for Comparative Purposes	Table 1.5: Summary of Minto Deposit Mineral Resources (Inclusive of Mineral Reserves)	6
Table 1.7: Summary of Resource Estimation Results for the Minto Project at 0.50% Cu cut-off and Other % Cu Cut-offs Included for Comparative Purposes	Table 1.6: Summary of Area 2 Mineral Resources (Inclusive of Mineral Reserves)	7
Other % Cu Cut-offs Included for Comparative Purposes       .9         Table 1.9: Summary of Case 1 Non-contract Metal Pricing Assumptions       .11         Table 1.9: Summary of Case 1 Non-contract Metal Pricing Assumptions       .11         Table 2.1: QP Site Visits       .14         Table 4.1: Claim Status (from Whitehorse Mining District Recorder, Glenna Southwick, 5 April       .14         2006)       .17         Table 4.1: Claim Status (from Whitehorse Mining District Recorder, Glenna Southwick, 5 April       .17         Table 6.1: 2007 Operating Results       .27         Table 6.2: Summary of Drill Holes included in the Resource Estimation       .31         Table 9.1: Some Weighed Average Assay Interval Highlights from Ridge Top Historical Drilling       .47         Table 9.2: Some Weighed Average Assay Interval Highlights from Area 2 Historical Drilling       .47         Table 9.2: Some Weighed Average Assay Interval Highlights from AceX 2 Historical Drilling       .47         Table 9.4: Some Weighed Average Assay Interval Highlights from OSWC-074-Zone 2-2006       Drilling       .50         Table 9.5: Some Weighed Assay Interval Highlights from Connector Historical Drilling       .51       .51         Table 9.7: Somme Assay Interval Highlights from OSWC-074-Zone 2-2006       Drilling       .52         Table 9.7: Somme Assay Interval Highlights from Connector Historical Drilling       .52       .51		
Table 1.8: Summary of Forward Sales Contract Metal Pricing       11         Table 1.9: Summary of Case 1 Non-contract Metal Pricing Assumptions       11         Table 2.1: OP Site Visits       12         Table 2.1: OP Site Visits       14         Table 4.1: Claim Status (from Whitehorse Mining District Recorder, Glenna Southwick, 5 April       17         Table 6.2: Leases       21         Table 6.3: 1007 Operating Results       27         Table 6.3: Summary of Drill Holes included in the Resource Estimation       31         Table 6.3: Historical Tonnage & Grade Estimates of the Minto Deposit       35         Table 9.2: Some Weighed Average Assay Interval Highlights from Ridge Top Historical Drilling       47         Table 9.3: Some Weighed Average Assay Interval Highlights from 06SWC-074-Zone 2-2006       97         Drilling       49       50         Table 9.4: Some Weighed Average Assay Interval Highlights from 06SWC-074-Zone 2-2006       51         Drilling       51       51         Table 9.5: Some Weighed Average Assay Interval Highlights from 06SWC-074-Zone 2-2006       52         Drilling       51       52         Table 9.5: Some Weighed Average Assay Interval Highlights from 2008 drilling       52         Table 9.7: Somme Assay Interval Highlights from Connector Historical Drilling       51         Table 9.7: Somme Assay Interval		
Table 1.9: Summary of Case 1 Non-contract Metal Pricing Assumptions.       11         Table 2.1: QP Site Visits       12         Table 4.1: Claim Status (from Whitehorse Mining District Recorder, Glenna Southwick, 5 April 2006)       17         Table 4.1: Claim Status (from Whitehorse Mining District Recorder, Glenna Southwick, 5 April 2006)       17         Table 6.1: 2007 Operating Results.       21         Table 6.2: Summary of Drill Holes Included in the Resource Estimation       31         Table 6.2: Some Weighed Average Assay Interval Highlights from Ridge Top Historical Drilling       49         Table 9.3: Some Weighed Average Assay Interval Highlights from Acs 2 Historical Drilling       49         Table 9.3: Some Weighed Average Assay Interval Highlights from 06SWC-074-Zone 2-2006       0         Drilling.       49         Table 9.5: Some Weighed Average Assay Interval Highlights from Acs 2 Historical Drilling       51         Table 9.7: Somme Assay Interval Highlights from Connector Historical Drilling       52         Table 9.7: Some Meighed Assay Interval Highlights from Connector Historical Drilling       52         Table 9.7: Somme Assay Interval Highlights from Connector Historical Drilling       52         Table 9.7: Somme Assay Interval Highlights from Connector Historical Drilling       52         Table 9.7: Somme Assay Interval Highlights from Connector Historical Drilling       52         Table 9.7: Somme Assay		
Table 1.10: Comparison of Economic Model Results by Case       12         Table 2.1: QP Site Visits       14         Table 4.1: Claim Status (from Whitehorse Mining District Recorder, Glenna Southwick, 5 April       17         Table 4.2: Leases       21         Table 6.2: Summary of Drill Holes Included in the Resource Estimation       31         Table 6.3: Historical Tonnage & Grade Estimates of the Minto Deposit       35         Table 9.2: Some Weighed Average Assay Interval Highlights from Ridge Top Historical Drilling       47         Table 9.2: Some Weighed Average Assay Interval Highlights from O6SWC-068-Zone 2-2006       9         Drilling       49         Table 9.4: Some Weighed Average Assay Interval Highlights from 06SWC-074-Zone 2-2006       60         Drilling       50         Table 9.5: Some Weighed Average Assay Interval Highlights from O6SWC-074-Zone 2-2006       51         Drilling       51         Table 9.6: Somme Assay Interval Highlights from DEF Area Drilling       52         Table 9.7: Some Meighed Assay Interval Highlights from PE Area Drilling       52         Table 13.1: SRM Included in 2007 Sample Shipments for Area 2, Area 118 and Ridgetop East Drill Hole Samples       53         Table 14.2: Confirmation Drilling Results, Main Zone, Cu       94         Table 14.2: Confirmation Drilling Results, Main Zone, Au       95         Table 14		
Table 2.1: QP Site Visits       14         Table 4.1: Claim Status (from Whitehorse Mining District Recorder, Glenna Southwick, 5 April 2006)       17         Table 4.2: Leases       21         Table 6.1: 2007 Operating Results       27         Table 6.2: Summary of Drill Holes Included in the Resource Estimation       31         Table 6.3: Historical Tonnage & Grade Estimates of the Minto Deposit       35         Table 9.1: Some Weighed Average Assay Interval Highlights from Ridge Top Historical Drilling       47         Table 9.2: Some Weighed Average Assay Interval Highlights from 06SWC-068-Zone 2-2006 Drilling       49         Table 9.5: Some Weighed Average Assay Interval Highlights from 06SWC-074-Zone 2-2006 Drilling       50         Table 9.5: Some Weighed Average Assay Interval Highlights from OSWC-074-Zone 2-2006 Drilling       52         Table 9.5: Some Weighed Assay Interval Highlights from Connector Historical Drilling       52         Table 9.5: Some Weighed Assay Interval Highlights from DEF Area Drilling       52         Table 9.5: Some Weighed Assay Interval Highlights from DEF Area Drilling       52         Table 9.1: SMI Included in 2007 Sample Shipments for Area 2, Area 118 and Ridgetop East Drill Hole Samples       52         Table 14.1: Data Verification       93         Table 14.2: Confirmation Drilling Results, Lower Zone, Cu       94         Table 14.4: Confirmation Drilling Results, Lower Zone, Au		
Table 4.1: Claim Status (from Whitehorse Mining District Recorder, Glenna Southwick, 5 April 2006)       17         Table 4.2: Leases       21         Table 6.2: Summary of Drill Holes Included in the Resource Estimation       31         Table 6.3: Historical Tonnage & Grade Estimates of the Minto Deposit       35         Table 9.2: Some Weighed Average Assay Interval Highlights from Ridge Top Historical Drilling       47         Table 9.2: Some Weighed Average Assay Interval Highlights from Ridge Top Historical Drilling       47         Table 9.2: Some Weighed Average Assay Interval Highlights from O6SWC-068-Zone 2-2006 Drilling       49         Table 9.4: Some Weighed Average Assay Interval Highlights from 06SWC-074-Zone 2-2006 Drilling       50         Table 9.5: Some Weighed Assay Interval Highlights from Onestor Historical Drilling       51         Table 9.6: Somme Assay Interval Highlights from Der Area Drilling       51         Table 9.7: Somme Assay Interval Highlights from DEF Area Drilling       52         Table 11.1: Summary of MintoEx Drill Holes by Deposit (excluding 2008 drilling)       62         Table 14.2: Confirmation Drilling Results, Main Zone, Cu       94         Table 14.3: Confirmation Drilling Results, Lower Zone, Cu       94         Table 14.4: Confirmation Drilling Results, Lower Zone, Au       95         Table 14.5: Confirmation Drilling Results, Main Zone, Au       95         Table 14.6: Comparison of Se	•	
2006)		
Table 4.2: Leases       21         Table 6.1: 2007 Operating Results.       27         Table 6.3: Historical Tonnage & Grade Estimates of the Minto Deposit       31         Table 6.3: Historical Tonnage & Grade Estimates of the Minto Deposit       35         Table 9.1: Some Weighed Average Assay Interval Highlights from Ridge Top Historical Drilling       47         Table 9.2: Some Weighed Average Assay Interval Highlights from 06SWC-068-Zone 2-2006       49         Drilling       49         Table 9.4: Some Weighed Average Assay Interval Highlights from 06SWC-074-Zone 2-2006       50         Drilling       51         Table 9.5: Some Weighed Average Assay Interval Highlights from 06SWC-074-Zone 2-2006       50         Drilling       51         Table 9.5: Some Weighed Assay Interval Highlights from Connector Historical Drilling       51         Table 9.6: Somme Assay Interval Highlights from DEF Area Drilling       52         Table 9.7: Somme Assay Interval Highlights from DEF Area Drilling       62         Table 13.1: SRM Included in 2007 Sample Shipments for Area 2, Area 118 and Ridgetop East Drill       62         Table 14.2: Confirmation Drilling Results, Lower Zone, Cu       94         Table 14.3: Confirmation Drilling Results, Lower Zone, Au       95         Table 14.4: Confirmation Drilling Results, Lower Zone, Au       95         Table 14.5: Confirmation Dr		17
Table 6.1: 2007 Operating Results.       27         Table 6.2: Summary of Drill Holes Included in the Resource Estimation       31         Table 6.3: Historical Tonnage & Grade Estimates of the Minto Deposit       35         Table 9.1: Some Weighed Average Assay Interval Highlights from Ridge Top Historical Drilling       49         Table 9.2: Some Weighed Average Assay Interval Highlights from Area 2 Historical Drilling       49         Table 9.4: Some Weighed Average Assay Interval Highlights from 06SWC-068-Zone 2-2006       49         Drilling       50         Table 9.5: Some Weighed Assay Interval Highlights from Airstrip Historical Drilling       51         Table 9.5: Some Weighed Assay Interval Highlights from Connector Historical Drilling       52         Table 9.6: Somme Assay Interval Highlights from ODEF Area Drilling       52         Table 1.1: Summary of MintoEx Drill Holes by Deposit (excluding 2008 drilling)       62         Table 1.3: ISRM Included in 2007 Sample Shipments for Area 2, Area 118 and Ridgetop East Drill Hole Samples       75         Table 14.2: Confirmation Drilling Results, Lower Zone, Cu       94         Table 14.3: Confirmation Drilling Results, Lower Zone, Au       95         Table 14.4: Confirmation Drilling Results, Lower Zone, Au       95         Table 14.5: Confirmation Drilling Results, Lower Zone, Au       95         Table 14.7: Comparison of Selected Drill Hole Collars by SRK and MintoEx<		
Table 6.2: Summary of Drill Holes Included in the Resource Estimation       31         Table 6.3: Historical Tonnage & Grade Estimates of the Minto Deposit       35         Table 9.1: Some Weighed Average Assay Interval Highlights from Ridge Top Historical Drilling       47         Table 9.2: Some Weighed Average Assay Interval Highlights from Area 2 Historical Drilling       49         Table 9.3: Some Weighed Average Assay Interval Highlights from 06SWC-068-Zone 2-2006       49         Drilling       49         Table 9.5: Some Weighed Assay Interval Highlights from Airstrip Historical Drilling       50         Table 9.5: Some Weighed Assay Interval Highlights from Connector Historical Drilling       52         Table 9.7: Somme Assay Interval Highlights from DEF Area Drilling       52         Table 9.7: Somme Assay Interval Highlights from DEF Area Drilling       62         Table 13.1: SRM Included in 2007 Sample Shipments for Area 2, Area 118 and Ridgetop East Drill Hole Samples       75         Table 14.2: Confirmation Drilling Results, Main Zone, Cu       94         Table 14.3: Confirmation Drilling Results, Lower Zone, Au       95         Table 14.4: Confirmation Drilling Results, Lower Zone, Au       95         Table 14.5: Confirmation Drilling Results, Lower Zone, Au       95         Table 14.6: Comparison of Selected Drill Hole Collars by SRK and MintoEx       98         Table 14.7: Comparison of Selected Drill Hole Coll		
Table 6.3: Historical Tonnage & Grade Estimates of the Minto Deposit       .35         Table 9.1: Some Weighed Average Assay Interval Highlights from Ridge Top Historical Drilling       .47         Table 9.2: Some Weighed Average Assay Interval Highlights from 06SWC-068-Zone 2-2006       .49         Table 9.3: Some Weighed Average Assay Interval Highlights from 06SWC-074-Zone 2-2006       .49         Table 9.5: Some Weighed Average Assay Interval Highlights from 06SWC-074-Zone 2-2006       .50         Table 9.5: Some Weighed Average Assay Interval Highlights from O6SWC-074-Zone 2-2006       .50         Table 9.5: Some Weighed Assay Interval Highlights from Connector Historical Drilling       .51         Table 9.7: Somme Assay Interval Highlights from DEF Area Drilling       .52         Table 1.1: Summary of MintoEx Drill Holes by Deposit (excluding 2008 drilling)       .62         Table 13.1: SRM Included in 2007 Sample Shipments for Area 2, Area 118 and Ridgetop East Drill Hole Samples       .75         Table 14.2: Confirmation Drilling Results, Main Zone, Cu       .94         Table 14.3: Confirmation Drilling Results, Lower Zone, Au       .95         Table 14.6: Comparison of Lithology and Copper Grade       .100         Table 17.2: Summary of Minto Deposit Mineral Resources (Inclusive of Mineral Reserves)       .101         Table 14.7: Comparison of Lithology and Copper Grade       .110         Table 17.3: Summary of Area 2 Mineral Resources (Inclusive of Min		
<ul> <li>Table 9.1: Some Weighed Äverage Assay Interval Highlights from Ridge Top Historical Drilling 47</li> <li>Table 9.2: Some Weighed Average Assay Interval Highlights from Area 2 Historical Drilling</li></ul>		
Table 9.2: Some Weighed Average Assay Interval Highlights from Area 2 Historical Drilling       49         Table 9.3: Some Weighed Average Assay Interval Highlights from 06SWC-068-Zone 2-2006       49         Table 9.4: Some Weighed Average Assay Interval Highlights from 06SWC-074-Zone 2-2006       50         Table 9.5: Some Weighed Assay Interval Highlights from Airstrip Historical Drilling       50         Table 9.5: Some Weighed Assay Interval Highlights from Connector Historical Drilling       52         Table 9.7: Somme Assay Interval Highlights from DEF Area Drilling       52         Table 11.1: Summary of MintoEx Drill Holes by Deposit (excluding 2008 drilling)       62         Table 13.1: SRM Included in 2007 Sample Shipments for Area 2, Area 118 and Ridgetop East Drill Hole Samples       75         Table 14.1: Data Verification       93         Table 14.2: Confirmation Drilling Results, Main Zone, Cu       94         Table 14.3: Confirmation Drilling Results, Lower Zone, Cu       94         Table 14.4: Confirmation Drilling Results, Lower Zone, Au       95         Table 14.6: Comparison of Selected Drill Hole Collars by SRK and MintoEx       98         Table 17.1: Summary of Minto Deposit Mineral Resources (Inclusive of Mineral Reserves)       110         Table 17.3: 2007 Drill Holes in the Minto Mine Deposit       110         Table 17.4: Main Zone Intervals in 2007 Drill Holes       111         Table 17.5: Averaged Bu	•	
Table 9.3: Some Weighed Average Assay Interval Highlights from 06SWC-068-Zone 2-2006       49         Table 9.4: Some Weighed Average Assay Interval Highlights from 06SWC-074-Zone 2-2006       50         Table 9.5: Some Weighed Assay Interval Highlights from Airstrip Historical Drilling       51         Table 9.6: Somme Assay Interval Highlights from Connector Historical Drilling       52         Table 9.7: Somme Assay Interval Highlights from DEF Area Drilling       52         Table 11.1: Summary of MintoEx Drill Holes by Deposit (excluding 2008 drilling)       62         Table 13.1: SRM Included in 2007 Sample Shipments for Area 2, Area 118 and Ridgetop East Drill       62         Table 14.2: Confirmation Drilling Results, Main Zone, Cu       94         Table 14.3: Confirmation Drilling Results, Main Zone, Au       95         Table 14.4: Confirmation Drilling Results, Lower Zone, Au       95         Table 14.5: Confirmation Drilling Results, Lower Zone, Au       95         Table 14.6: Comparison of Selected Drill Hole Collars by SRK and MintoEx       98         Table 17.1: Summary of Airea 2 Mineral Resources (Inclusive of Mineral Reserves)       110         Table 17.2: Summary of Airea 2 Mineral Resources (Inclusive of Mineral Reserves)       110         Table 17.3: 2007 Drill Holes in the Minto Mine Deposit       111         Table 17.4: Main Zone Intervals in 2007 Drill Holes       111         Table 17.6: Search Ellipse Definit		
Drilling.       49         Table 9.4: Some Weighed Average Assay Interval Highlights from 06SWC-074-Zone 2-2006       50         Drilling.       50         Table 9.5: Some Weighed Assay Interval Highlights from Connector Historical Drilling       51         Table 9.6: Somme Assay Interval Highlights from DEF Area Drilling.       52         Table 9.7: Somme Assay Interval Highlights from DEF Area Drilling.       52         Table 11.1: Summary of MintoEx Drill Holes by Deposit (excluding 2008 drilling).       62         Table 13.1: SRM Included in 2007 Sample Shipments for Area 2, Area 118 and Ridgetop East Drill       62         Hole Samples       75         Table 14.2: Confirmation Drilling Results, Main Zone, Cu       94         Table 14.3: Confirmation Drilling Results, Main Zone, Au       95         Table 14.4: Confirmation Drilling Results, Lower Zone, Au       95         Table 14.5: Confirmation Drilling Results, Lower Zone, Au       95         Table 17.1: Summary of Minto Deposit Mineral Resources (Inclusive of Mineral Reserves)       110         Table 17.2: Summary of Area 2 Mineral Resources (Inclusive of Mineral Reserves)       110         Table 17.3: 2007 Drill Holes in the Minto Mine Deposit       110         Table 17.4: Main Zone Intervals in 2007 Drill Holes       111         Table 17.5: Averaged Bulk Density Values by Zone and Oxidation State (April 2006)       113		. 49
Table 9.4: Some Weighed Average Assay Interval Highlights from 06SWC-074-Zone 2-2006       50         Table 9.5: Some Weighed Assay Interval Highlights from Airstrip Historical Drilling       51         Table 9.6: Somme Assay Interval Highlights from Connector Historical Drilling       52         Table 9.7: Somme Assay Interval Highlights from DEF Area Drilling       52         Table 11.1: Summary of MintoEx Drill Holes by Deposit (excluding 2008 drilling)       62         Table 13.1: SRM Included in 2007 Sample Shipments for Area 2, Area 118 and Ridgetop East Drill       75         Table 14.2: Confirmation Drilling Results, Main Zone, Cu       94         Table 14.2: Confirmation Drilling Results, Lower Zone, Cu       94         Table 14.4: Confirmation Drilling Results, Lower Zone, Au       95         Table 14.5: Confirmation Drilling Results, Lower Zone, Au       95         Table 14.7: Comparison of Selected Drill Hole Collars by SRK and MintoEx       98         Table 17.1: Summary of Minto Deposit Mineral Resources (Inclusive of Mineral Reserves)       100         Table 17.2: Summary of Area 2 Mineral Resources (Inclusive of Mineral Reserves)       110         Table 17.5: Averaged Bulk Density Values by Zone and Oxidation State (April 2006)       113         Table 17.6: Search Ellipse Definitions for December 2007 Main Zone Ordinary Kriging       115         Table 17.6: Search Ellipse Definitions for December 2007 Main Zone Ordinary Kriging       115 <td></td> <td>40</td>		40
Drilling.50Table 9.5: Some Weighed Assay Interval Highlights from Airstrip Historical Drilling51Table 9.6: Somme Assay Interval Highlights from DEF Area Drilling52Table 11.1: Summary of MintoEx Drill Holes by Deposit (excluding 2008 drilling)62Table 13.1: SRM Included in 2007 Sample Shipments for Area 2, Area 118 and Ridgetop East Drill Hole Samples75Table 14.1: Data Verification75Table 14.2: Confirmation Drilling Results, Main Zone, Cu94Table 14.3: Confirmation Drilling Results, Lower Zone, Cu94Table 14.4: Confirmation Drilling Results, Lower Zone, Au95Table 14.5: Confirmation Drilling Results, Lower Zone, Au95Table 14.6: Comparison of Selected Drill Hole Collars by SRK and MintoEx98Table 14.7: Comparison of Lithology and Copper Grade100Table 17.1: Summary of Minto Deposit Mineral Resources (Inclusive of Mineral Reserves)109Table 17.3: 2007 Drill Holes in the Minto Mine Deposit111Table 17.6: Search Ellipse Definitions for December 2007 Main Zone Ordinary Kriging115Table 17.6: Search Ellipse Definitions for December 2007 Main Zone Ordinary Kriging115Table 17.8: Mineral Resource Estimate Tabulation – Minto Mine Main Deposit - 0.50% Cu Cut-off118117Table 17.10: Mineral Resource Estimate Tabulation – Minto Mine Main Deposit - 0.40% Cu Cut-117Table 17.11: Mineral Resource Estimation Tabulation – Minto Mine Main Deposit - 0.40% Cu Cut-111Table 17.11: Mineral Resource Estimation Tabulation – Minto Mine Main Deposit - 0.40% Cu Cut-111Table 17.11: Mineral Resource Estim	Drilling	. 49
Table 9.5: Some Weighed Assay Interval Highlights from Airstrip Historical Drilling       51         Table 9.6: Somme Assay Interval Highlights from Connector Historical Drilling       52         Table 9.7: Somme Assay Interval Highlights from DEF Area Drilling       52         Table 11: Summary of MintoEx Drill Holes by Deposit (excluding 2008 drilling)       62         Table 13.1: SRM Included in 2007 Sample Shipments for Area 2, Area 118 and Ridgetop East Drill       62         Hole Samples       75         Table 14.2: Confirmation Drilling Results, Main Zone, Cu       94         Table 14.3: Confirmation Drilling Results, Lower Zone, Cu       94         Table 14.4: Confirmation Drilling Results, Main Zone, Au       95         Table 14.6: Comparison of Selected Drill Hole Collars by SRK and MintoEx       98         Table 14.7: Comparison of Lithology and Copper Grade       100         Table 17.1: Summary of Minto Deposit Mineral Resources (Inclusive of Mineral Reserves)       110         Table 17.3: 2007 Drill Holes in the Minto Mine Deposit       110         Table 17.4: Main Zone Intervals in 2007 Drill Holes       111         Table 17.5: Averaged Bulk Density Values by Zone and Oxidation State (April 2006)       113         Table 17.6: Search Ellipse Definitions for December 2007 Main Zone Ordinary Kriging       117         Table 17.6: Mineral Resource Estimate Tabulation - Minto Mine Main Deposit - 0.50% Cu Cut-off118		
Table 9.6: Somme Assay Interval Highlights from Connector Historical Drilling       52         Table 9.7: Somme Assay Interval Highlights from DEF Area Drilling       52         Table 11.1: Summary of MintoEx Drill Holes by Deposit (excluding 2008 drilling)       62         Table 13.1: SRM Included in 2007 Sample Shipments for Area 2, Area 118 and Ridgetop East Drill Hole Samples       75         Table 14.1: Data Verification       93         Table 14.2: Confirmation Drilling Results, Main Zone, Cu       94         Table 14.3: Confirmation Drilling Results, Lower Zone, Cu       94         Table 14.4: Confirmation Drilling Results, Lower Zone, Au       95         Table 14.5: Confirmation Drilling Results, Lower Zone, Au       95         Table 14.6: Comparison of Selected Drill Hole Collars by SRK and MintoEx       98         Table 17.1: Summary of Minto Deposit Mineral Resources (Inclusive of Mineral Reserves)       110         Table 17.2: Summary of Area 2 Mineral Resources (Inclusive of Mineral Reserves)       110         Table 17.3: 2007 Drill Holes in the Minto Mine Deposit       111         Table 17.6: Search Ellipse Definitions for December 2007 Main Zone Ordinary Kriging       115         Table 17.8: Mineral Resource Estimate Tabulation – Minto Mine Main Deposit – 0.50% Cu Cut-off118       117         Table 17.9: Mineral Resource Estimate Tabulation – Minto Mine Main Deposit – 0.20% Cu Cut-off119       110         Table 17.9:	Drilling	. 50
Table 9.7: Somme Assay Interval Highlights from DEF Area Drilling.       52         Table 11.1: Summary of MintoEx Drill Holes by Deposit (excluding 2008 drilling)       62         Table 13.1: SRM Included in 2007 Sample Shipments for Area 2, Area 118 and Ridgetop East Drill Hole Samples       75         Table 14.1: Data Verification       93         Table 14.2: Confirmation Drilling Results, Main Zone, Cu       94         Table 14.3: Confirmation Drilling Results, Lower Zone, Cu       94         Table 14.4: Confirmation Drilling Results, Lower Zone, Au       95         Table 14.5: Comfirmation Drilling Results, Lower Zone, Au       95         Table 14.6: Comparison of Selected Drill Hole Collars by SRK and MintoEx       98         Table 17.1: Summary of Minto Deposit Mineral Resources (Inclusive of Mineral Reserves)       100         Table 17.3: 2007 Drill Holes in the Minto Mine Deposit       110         Table 17.4: Main Zone Intervals in 2007 Drill Holes       111         Table 17.6: Search Ellipse Definitions for December 2007 Main Zone Ordinary Kriging       115         Table 17.7: Global Bias Check of Ordinary Kriging (OK) against Nearest Neighbour (NN) and Composite Average Grades       117         Table 17.9: Mineral Resource Estimate Tabulation – Minto Mine Main Deposit – 0.50% Cu Cut-off118       118         Table 17.9: Mineral Resource Estimate Tabulation – Minto Mine Main Deposit – 0.40% Cu Cut-off119       120		
Table 11.1: Summary of MintoEx Drill Holes by Deposit (excluding 2008 drilling)		
Table 13.1: SRM Included in 2007 Sample Shipments for Area 2, Area 118 and Ridgetop East Drill Hole Samples       75         Table 14.1: Data Verification       93         Table 14.2: Confirmation Drilling Results, Main Zone, Cu       94         Table 14.3: Confirmation Drilling Results, Lower Zone, Cu       94         Table 14.4: Confirmation Drilling Results, Lower Zone, Cu       94         Table 14.5: Confirmation Drilling Results, Lower Zone, Au       95         Table 14.6: Comparison of Selected Drill Hole Collars by SRK and MintoEx       98         Table 17.1: Summary of Minto Deposit Mineral Resources (Inclusive of Mineral Reserves)       100         Table 17.2: Summary of Area 2 Mineral Resources (Inclusive of Mineral Reserves)       110         Table 17.3: 2007 Drill Holes in the Minto Mine Deposit       111         Table 17.4: Main Zone Intervals in 2007 Drill Holes       111         Table 17.6: Search Ellipse Definitions for December 2007 Main Zone Ordinary Kriging       115         Table 17.8: Mineral Resource Estimate Tabulation - Minto Mine Main Deposit - 0.50% Cu Cut-off118       117         Table 17.9: Mineral Resource Estimate Tabulation - Minto Mine Main Deposit - 0.30% Cu Cut-off119       110         Table 17.9: Mineral Resource Estimate Tabulation - Minto Mine Main Deposit - 0.40% Cu Cut-off119       110		
Hole Samples75Table 14.1: Data Verification93Table 14.2: Confirmation Drilling Results, Main Zone, Cu94Table 14.3: Confirmation Drilling Results, Lower Zone, Cu94Table 14.4: Confirmation Drilling Results, Lower Zone, Cu94Table 14.5: Confirmation Drilling Results, Main Zone, Au95Table 14.6: Comparison of Selected Drill Hole Collars by SRK and MintoEx98Table 14.7: Comparison of Selected Drill Hole Collars by SRK and MintoEx98Table 17.1: Summary of Minto Deposit Mineral Resources (Inclusive of Mineral Reserves)100Table 17.2: Summary of Area 2 Mineral Resources (Inclusive of Mineral Reserves)110Table 17.3: 2007 Drill Holes in the Minto Mine Deposit111Table 17.4: Main Zone Intervals in 2007 Drill Holes111Table 17.5: Averaged Bulk Density Values by Zone and Oxidation State (April 2006)113Table 17.6: Search Ellipse Definitions for December 2007 Main Zone Ordinary Kriging115Table 17.7: Global Bias Check of Ordinary Kriging (OK) against Nearest Neighbour (NN) and Composite Average Grades117Table 17.8: Mineral Resource Estimate Tabulation - Minto Mine Main Deposit - 0.50% Cu Cut-off118118Table 17.9: Mineral Resource Estimate Tabulation - Minto Mine Main Deposit - 0.30% Cu Cut-off119110Table 17.11: Mineral Resource Estimate Tabulation - Minto Mine Main Deposit - 0.40% Cu Cut-111		
Table 14.1: Data Verification       93         Table 14.2: Confirmation Drilling Results, Main Zone, Cu       94         Table 14.3: Confirmation Drilling Results, Lower Zone, Cu       94         Table 14.4: Confirmation Drilling Results, Main Zone, Au       95         Table 14.5: Confirmation Drilling Results, Lower Zone, Au       95         Table 14.6: Comparison of Selected Drill Hole Collars by SRK and MintoEx.       98         Table 14.7: Comparison of Lithology and Copper Grade       100         Table 17.1: Summary of Minto Deposit Mineral Resources (Inclusive of Mineral Reserves)       109         Table 17.2: Summary of Area 2 Mineral Resources (Inclusive of Mineral Reserves)       110         Table 17.3: 2007 Drill Holes in the Minto Mine Deposit       110         Table 17.4: Main Zone Intervals in 2007 Drill Holes       111         Table 17.6: Search Ellipse Definitions for December 2007 Main Zone Ordinary Kriging       115         Table 17.7: Global Bias Check of Ordinary Kriging (OK) against Nearest Neighbour (NN) and Composite Average Grades       117         Table 17.8: Mineral Resource Estimate Tabulation – Minto Mine Main Deposit – 0.50% Cu Cut-off118       119         Table 17.9: Mineral Resource Estimate Tabulation – Minto Mine Main Deposit – 0.30% Cu Cut-off119       110         Table 17.10: Mineral Resource Estimate Tabulation – Minto Mine Main Deposit – 0.40% Cu Cut-off119       110		
Table 14.2: Confirmation Drilling Results, Main Zone, Cu94Table 14.3: Confirmation Drilling Results, Lower Zone, Cu94Table 14.4: Confirmation Drilling Results, Main Zone, Au95Table 14.5: Confirmation Drilling Results, Lower Zone, Au95Table 14.6: Comparison of Selected Drill Hole Collars by SRK and MintoEx98Table 14.7: Comparison of Lithology and Copper Grade100Table 17.1: Summary of Minto Deposit Mineral Resources (Inclusive of Mineral Reserves)109Table 17.2: Summary of Area 2 Mineral Resources (Inclusive of Mineral Reserves)110Table 17.3: 2007 Drill Holes in the Minto Mine Deposit110Table 17.4: Main Zone Intervals in 2007 Drill Holes111Table 17.5: Averaged Bulk Density Values by Zone and Oxidation State (April 2006)113Table 17.6: Search Ellipse Definitions for December 2007 Main Zone Ordinary Kriging115Table 17.7: Global Bias Check of Ordinary Kriging (OK) against Nearest Neighbour (NN) and Composite Average Grades117Table 17.8: Mineral Resource Estimate Tabulation - Minto Mine Main Deposit - 0.20% Cu Cut-off118119Table 17.10: Mineral Resource Estimate Tabulation - Minto Mine Main Deposit - 0.30% Cu Cut-off119110Table 17.11: Mineral Resource Estimate Tabulation - Minto Mine Main Deposit - 0.40% Cu Cut-off119Table 17.11: Mineral Resource Estimation Tabulation - Minto Mine Main Deposit - 0.40% Cu Cut-		
Table 14.3: Confirmation Drilling Results, Lower Zone, Cu94Table 14.4: Confirmation Drilling Results, Main Zone, Au95Table 14.5: Confirmation Drilling Results, Lower Zone, Au95Table 14.6: Comparison of Selected Drill Hole Collars by SRK and MintoEx98Table 14.7: Comparison of Lithology and Copper Grade100Table 17.1: Summary of Minto Deposit Mineral Resources (Inclusive of Mineral Reserves)109Table 17.2: Summary of Area 2 Mineral Resources (Inclusive of Mineral Reserves)110Table 17.3: 2007 Drill Holes in the Minto Mine Deposit110Table 17.4: Main Zone Intervals in 2007 Drill Holes111Table 17.5: Averaged Bulk Density Values by Zone and Oxidation State (April 2006)113Table 17.7: Global Bias Check of Ordinary Kriging (OK) against Nearest Neighbour (NN) and Composite Average Grades117Table 17.8: Mineral Resource Estimate Tabulation – Minto Mine Main Deposit – 0.20% Cu Cut-off118117Table 17.10: Mineral Resource Estimate Tabulation – Minto Mine Main Deposit – 0.40% Cu Cut-off119110Table 17.11: Mineral Resource Estimate Tabulation – Minto Mine Main Deposit – 0.40% Cu Cut-off119Table 17.11: Mineral Resource Estimation Tabulation – Minto Mine Main Deposit – 0.40% Cu Cut-off119		
Table 14.4: Confirmation Drilling Results, Main Zone, Au.95Table 14.5: Confirmation Drilling Results, Lower Zone, Au.95Table 14.6: Comparison of Selected Drill Hole Collars by SRK and MintoEx.98Table 14.7: Comparison of Lithology and Copper Grade100Table 17.1: Summary of Minto Deposit Mineral Resources (Inclusive of Mineral Reserves)109Table 17.2: Summary of Area 2 Mineral Resources (Inclusive of Mineral Reserves)110Table 17.3: 2007 Drill Holes in the Minto Mine Deposit110Table 17.4: Main Zone Intervals in 2007 Drill Holes111Table 17.5: Averaged Bulk Density Values by Zone and Oxidation State (April 2006)113Table 17.6: Search Ellipse Definitions for December 2007 Main Zone Ordinary Kriging115Table 17.7: Global Bias Check of Ordinary Kriging (OK) against Nearest Neighbour (NN) and Composite Average Grades117Table 17.8: Mineral Resource Estimate Tabulation - Minto Mine Main Deposit - 0.50% Cu Cut-off118117Table 17.10: Mineral Resource Estimate Tabulation - Minto Mine Main Deposit - 0.30% Cu Cut-off119112Table 17.11: Mineral Resource Estimate Tabulation - Minto Mine Main Deposit - 0.40% Cu Cut-117		
Table 14.5: Confirmation Drilling Results, Lower Zone, Au		
Table 14.6: Comparison of Selected Drill Hole Collars by SRK and MintoEx.98Table 14.7: Comparison of Lithology and Copper Grade100Table 17.1: Summary of Minto Deposit Mineral Resources (Inclusive of Mineral Reserves)109Table 17.2: Summary of Area 2 Mineral Resources (Inclusive of Mineral Reserves)110Table 17.3: 2007 Drill Holes in the Minto Mine Deposit110Table 17.4: Main Zone Intervals in 2007 Drill Holes111Table 17.5: Averaged Bulk Density Values by Zone and Oxidation State (April 2006)113Table 17.6: Search Ellipse Definitions for December 2007 Main Zone Ordinary Kriging115Table 17.7: Global Bias Check of Ordinary Kriging (OK) against Nearest Neighbour (NN) and Composite Average Grades117Table 17.8: Mineral Resource Estimate Tabulation - Minto Mine Main Deposit - 0.20% Cu Cut-off118118Table 17.10: Mineral Resource Estimate Tabulation - Minto Mine Main Deposit - 0.30% Cu Cut-off119120Table 17.11: Mineral Resource Estimate Tabulation - Minto Mine Main Deposit - 0.40% Cu Cut-off119120Table 17.11: Mineral Resource Estimate Tabulation - Minto Mine Main Deposit - 0.40% Cu Cut-off119120Table 17.11: Mineral Resource Estimate Tabulation - Minto Mine Main Deposit - 0.40% Cu Cut-off119120		
Table 14.7: Comparison of Lithology and Copper Grade100Table 17.1: Summary of Minto Deposit Mineral Resources (Inclusive of Mineral Reserves)109Table 17.2: Summary of Area 2 Mineral Resources (Inclusive of Mineral Reserves)110Table 17.3: 2007 Drill Holes in the Minto Mine Deposit110Table 17.4: Main Zone Intervals in 2007 Drill Holes111Table 17.5: Averaged Bulk Density Values by Zone and Oxidation State (April 2006)113Table 17.6: Search Ellipse Definitions for December 2007 Main Zone Ordinary Kriging115Table 17.7: Global Bias Check of Ordinary Kriging (OK) against Nearest Neighbour (NN) and Composite Average Grades117Table 17.8: Mineral Resource Estimate Tabulation - Minto Mine Main Deposit - 0.50% Cu Cut-off118118Table 17.10: Mineral Resource Estimate Tabulation - Minto Mine Main Deposit - 0.30% Cu Cut-off119119Table 17.11: Mineral Resource Estimate Tabulation - Minto Mine Main Deposit - 0.40% Cu Cut-off119120		
Table 17.1: Summary of Minto Deposit Mineral Resources (Inclusive of Mineral Reserves)	Table 14.6: Comparison of Selected Drill Hole Collars by SRK and MintoEx.	. 98
<ul> <li>Table 17.2: Summary of Area 2 Mineral Resources (Inclusive of Mineral Reserves)</li></ul>		
<ul> <li>Table 17.2: Summary of Area 2 Mineral Resources (Inclusive of Mineral Reserves)</li></ul>	Table 17.1: Summary of Minto Deposit Mineral Resources (Inclusive of Mineral Reserves)	109
Table 17.4: Main Zone Intervals in 2007 Drill Holes.111Table 17.5: Averaged Bulk Density Values by Zone and Oxidation State (April 2006).113Table 17.6: Search Ellipse Definitions for December 2007 Main Zone Ordinary Kriging115Table 17.7: Global Bias Check of Ordinary Kriging (OK) against Nearest Neighbour (NN) and Composite Average Grades.117Table 17.8: Mineral Resource Estimate Tabulation - Minto Mine Main Deposit - 0.50% Cu Cut-off118117Table 17.9: Mineral Resource Estimate Tabulation - Minto Mine Main Deposit - 0.20% Cu Cut-off119120%Table 17.10: Mineral Resource Estimate Tabulation - Minto Mine Main Deposit - 0.30% Cu Cut-off119111Table 17.11: Mineral Resource Estimate Tabulation - Minto Mine Main Deposit - 0.40% Cu Cut-off119120%		
<ul> <li>Table 17.5: Averaged Bulk Density Values by Zone and Oxidation State (April 2006)</li></ul>	Table 17.3: 2007 Drill Holes in the Minto Mine Deposit	110
<ul> <li>Table 17.6: Search Ellipse Definitions for December 2007 Main Zone Ordinary Kriging</li></ul>		
<ul> <li>Table 17.6: Search Ellipse Definitions for December 2007 Main Zone Ordinary Kriging</li></ul>	Table 17.5: Averaged Bulk Density Values by Zone and Oxidation State (April 2006)	113
Composite Average Grades		
Composite Average Grades	Table 17.7: Global Bias Check of Ordinary Kriging (OK) against Nearest Neighbour (NN) and	
Table 17.8: Mineral Resource Estimate Tabulation - Minto Mine Main Deposit - 0.50% Cu Cut-off118 Table 17.9: Mineral Resource Estimate Tabulation – Minto Mine Main Deposit – 0.20% Cu Cut-off119 Table 17.10: Mineral Resource Estimate Tabulation – Minto Mine Main Deposit – 0.30% Cu Cut-off119 Table 17.11: Mineral Resource Estimation Tabulation – Minto Mine Main Deposit – 0.40% Cu Cut-		117
Table 17.9: Mineral Resource Estimate Tabulation – Minto Mine Main Deposit – 0.20% Cu Cut-off119 Table 17.10: Mineral Resource Estimate Tabulation – Minto Mine Main Deposit – 0.30% Cu Cut-off119 Table 17.11: Mineral Resource Estimation Tabulation – Minto Mine Main Deposit – 0.40% Cu Cut-		
Table 17.10: Mineral Resource Estimate Tabulation – Minto Mine Main Deposit – 0.30% Cu Cut-off119 Table 17.11: Mineral Resource Estimation Tabulation – Minto Mine Main Deposit – 0.40% Cu Cut-		
Table 17.11: Mineral Resource Estimation Tabulation – Minto Mine Main Deposit – 0.40% Cu Cut-		
	•	
	off	

Table 17.12: Mineral Resource Estimate Tabulation – Minto Mine Main Deposit – 0.75% Cu Cu	t-off120
Table 17.13: Mineral Resource Estimate Tabulation - Minto Mine Main Deposit - 1.00% Cu Cut	
Table 17.14: Mineral Resource Estimate Tabulation - Minto Mine Main Deposit - 1.50% Cu Cut	
Table 17.15: Mineral Resource Estimate Tabulation – Minto Mine Main Deposit – 2.00% Cu Cu	
Table 17.16: Area 2 and Area 118 Domain Codes and Names	
Table 17.17: Zone and Area Codes Assigned to Composites and Blocks	
Table 17.18: New 2007 Drill Holes in the Area 2 Deposit Resource	
Table 17.19: Drill Holes Included in the Area 118 Deposit Resource Estimation	
Table 17.20: Summary of Statistics for Un-Cut % Cu Assays in Area 2 and Area 118	
Table 17.21: Summary of Capping Strategy and Number of Assays Capped by Zone	
Table 17.22: Summary of Statistics for Cut 3 m Cu Composites in Area 2 and Area 118	
Table 17.23: Bulk Density (g/cm <sup>3</sup> ) Averages and Capping Values by Domain	
Table 17.24: Interpolation Parameters for Area 2 Blocks (Ranges are in metres)	
Table 17.25: Interpolation Parameters for Area 118 Blocks (Ranges are in metres)	
Table 17.26: Comparison of OK, ID and NN Global Mean Values	
Table 17.27: Mineral Resources for Area 2 and 118 Deposits Reported using a 0.50 % Cu Cut-	off141
Table 17.28: Resources for Area 2 and 118 Deposits Reported using a 0.20 % Cu Cut-off	
Table 17.29: Resources for Area 2 and 118 Deposits Reported using a 0.30 % Cu Cut-off	143
Table 17.30: Resources for Area 2 and 118 Deposits Reported using a 0.40 % Cu Cut-off	144
Table 17.31: Resources for Area 2 and 118 Deposits Reported using a 0.75 % Cu Cut-off	. 145
Table 17.32: Resources for Area 2 and 118 Deposits Reported using a 1.00 % Cu Cut-off	. 146
Table 17.33: Resources for Area 2 and 118 Deposits Reported using a 1.50 % Cu Cut-off	
Table 17.34: Resources for Area 2 and 118 Deposits Reported using a 2.00 % Cu Cut-off	
Table 17.35: Ridgetop Deposit Domain Codes and Names	
Table 17.36: New 2007 drill holes in the Area 2 Deposit Resource	
Table 17.37: Summary of Statistics for Un-cut Assays at Ridgetop	
Table 17.38: Summary of Capping Strategy and Statistics for the Capped Assays	
Table 17.39: Summary of Statistics for Un-cut Assays	
Table 17.40: Averaged Bulk Density Values by Zone for Ridgetop Deposit	
Table 17.41: Interpolation Parameters for Ridgetop ID2 Model (Ranges are in Metres)	
Table 17.42: Inferred Mineral Resources for Ridgetop Reported using a 0.50 % Cu Cut-off	
Table 17.43: Inferred Mineral Resources for Ridgetop Reported using a 0.20 % Cu Cut-off	
Table 17.44: Inferred Mineral Resources for Ridgetop Reported using a 0.20 % Cu Cut-off	
Table 17.44: Inferred Mineral Resources for Ridgetop Reported using a 0.30 % Cu Cut-off	
Table 17.46: Inferred Mineral Resources for Ridgetop Reported using a 0.75 % Cu Cut-off	
Table 17.47: Inferred Mineral Resources for Ridgetop Reported using a 1.00 % Cu Cut-off	
Table 17.48: Inferred Mineral Resources for Ridgetop Reported using a 1.50 % Cu Cut-off	
Table 17.49: Minto - Mineral Reserves by Class for Main/Area 2 (at 0.62% Cu cut-off)	
Table 17.50: Minto - Mineral Reserves by Class for Main Pit (at 0.62% Cu cut-off)	
Table 17.51: Minto - Mineral Reserves by Class for Area 2 (at 0.62% Cu cut-off)	
Table 18.1: Monthly Reconciliation	
Table 19.1: Open Pit Design Parameters.	
Table 19.2: Open Pit Mobile Equipment Fleet.	. 169
Table 19.3: Main and Area 2 Phase Quantities (Commencing January 2009)	172
Table 19.4: LOM Operating Plan Summary	
Table 19.5: Ore Stockpiles	. 177
Table 19.6: Ore Stockpile Balance – May 2008	
Table 19.7: LOM Plan Stockpile Inventory	
Table 19.8: Metal Recovery Assumptions	
Table 19.9: Metal Price Hedging Contract Summary	
Table 19.10: Significant Minto Contracts	. 183
Table 19.11: Operating Cost Estimates and Assumptions	189

Table 19.12: Summary of LOM Plan CAPEX (\$M)	191
Table 19.13: Summary of Forward Sales Contract Metal Pricing	192
Table 19.14: Summary of Case 1 Non-contract Metal Pricing Assumptions	192
Table 19.15: Discount Factors and Related Net Present Values for Case 1	193
Table 19.16: Discount Factors and Related Net Present Values for Case 2	193
Table 19.17: Discount Factors and Related Net Present Values for Case 3	194
Table 19.18: Summary of Economic Model Results for All Three Cases	195
Table 19.19: Economic Results by Case (undiscounted cash flow)	196

Figure 1.1: Sensitivity Analysis Results for Case 1 (after tax, 10% discount rate)	
Figure 4.1: Location Map	
Figure 4.2: Mineral and Surface Rights Status Map	. 19
Figure 4.3: Mineral Claims Location Map	
Figure 5.1: Big Creek Bridge	
Figure 6.1: Drill Hole Location Map	
Figure 6.2: Typical Cross Section, Section 6945050N	
Figure 7.1: Yukon Geology	
Figure 7.2: Regional Geology	
Figure 7.3: North- South Cross Section through Minto Deposit showing DEF Fault and MC Fault	
Figure 9.1: Exploration Targets (Circa 2006)	. 46
Figure 9.2: Ridge Top Exploration	
Figure 9.3: Slab of Near Massive Bornite Mineralization taken from Airstrip Boulder	
Figure 10.1: Priority Exploration Corridor (PEC) with Drill Collars Current to July 17 <sup>th</sup>	54
Figure 10.2: Priority Exploration Corridor (PEC) with Drill Results Showing the Highest Copper	
Grade Over a Minimum Continuous 5 m Interval	
Figure 11.1: Wireframes of Mineralized Domains with Drill Holes, Area 2	
Figure 11.2: Wireframes of Mineralized Domains with Drill Holes, Area 118	
Figure 11.3: Wireframes of Mineralized Domains with Drill Holes, East Ridgetop	
Figure 13.1: Plot of SRM CDNCGS07, Gold Results	76
Figure 13.2: Plot of SRM CDNCGS07, Copper Results	76
Figure 13.3: Plot of SRM CDNCGS08, Gold Results	
Figure 13.4: Plot of SRM CDNCGS08, Copper Results	
Figure 13.5: Plot of SRM CDNCGS09, Gold Results	
Figure 13.6: Plot of SRM CDNCGS09, Copper Results	
Figure 13.7: Plot of SRM CDNCGS10, Gold Results	
Figure 13.8: Plot of SRM CDNCGS10, Copper Results	
Figure 13.9: Plot of SRM CDNCGS11, Gold Results	
Figure 13.10: Plot of SRM CDNCGS11, Copper Results	
Figure 13.11: Plot of SRM CDNCGS12, Gold Results	81
Figure 13.12: Plot of SRM CDNCGS12, Copper Results	. 82
Figure 13.13: Plot of SRM CDNCGS13, Gold Results	83
Figure 13.14: Plot of SRM CDNCGS13, Copper Results	
Figure 13.15: Plot of SRM WCM-Cu128, Copper Results	
Figure 13.16: Plot of SRM WCM-Cu128, Copper Results	
Figure 13.17: Plot of Blanks, Gold Results	
Figure 13.18: Plot of Blanks, Copper Results	0/
Figure 13.19: Plot of Pulp Duplicate and Original Value, Copper	
Figure 13.20: Plot of Original Value vs. Pulp Duplicate, Copper	
Figure 13.21: Plot of Pulp Duplicate and Original Value, Gold	
Figure 13.22: Plot of Original Value vs. Pulp Duplicate, Gold	89
Figure 13.23: Plot of Coarse Duplicate and Original Value, Copper	90
Figure 13.24: Plot of Original Value vs. Coarse Reject Duplicate, Copper	
Figure 13.25: Plot of Coarse Duplicate and Original Value, Gold	
Figure 13.26: Plot of Original Value vs. Coarse Reject Duplicate, Gold	
Figure 13.27: Plot of Original Value vs. Coarse Reject Duplicate, Gold and Copper	
Figure 14.1: Confirmation Drilling Section 11150 N	
Figure 14.2: Confirmation Drilling Section 11150 N Bench Composites	97

Figure 14.3: Photographs illustrating Coarser, Higher Grade Mineralization in Folded Doma versus Disseminated Lower Grade Mineralization in Foliated Domains that is Alig Sub-parallel to the Matrix Foliation (Yellow Line). Axial Plane Foliation (Dashed I (a) Folds an Early Stage Foliation (Yellow Line), But Also Appears to Have Beer	gned Blue) in
Overprinted By Further Folding	
Figure 16.1: Production by Month	
Figure 16.2: Monthly Copper and Silver Recovery	
Figure 16.3: Monthly Concentrate Grade	
Figure 17.1: Minto Pit (Transparent Grey), Main Zone (Orange), DEF Fault (Blue), and the 2	
Drill Holes in a 3-D View Looking Down to the NW	
Figure 17.2: Block Model Definition For the Minto Block Model (December 2007)	
Figure 17.3: Swath Plot - Cu % - Eastings	
Figure 17.4: Swath Plot - Cu % - Northings	116
Figure 17.5: Swath Plot - Cu % - Elevations	
Figure 17.6: Area 2 and Area 118 Domain Model Solids and Coding (View is looking toward	ls the
North-west)	
Figure 17.7: Probability Plot for Zone 251 Cu%	
Figure 17.8: Probability Plot for Zone 251 Au g/t	
Figure 17.9: Probability Plot for Zone 251 Ag g/t	131
Figure 17.10: Block Model Definition for the Area 2 and Area 118	133
Figure 17.11: Swath Plot for 251 Zone - Northings - Cu (%)	
Figure 17.12: Swath Plot for 251 Zone - Eastings - Cu (%)	
Figure 17.13: Swath Plot for 251 Zone - Elevations - Cu (%)	
Figure 17.14: Ridgetop Domain Model Solids and Coding (View is looking towards the North	
Figure 17.15: Probability Plot for Zone RT1001 Cu%	
Figure 17.16: Probability Plot for Zone RT1001 Au g/t	
Figure 17.17: Probability Plot for Zone RT1001 Ag g/t	
Figure 17.18: Block Model Definition for the Ridgetop Block Model	
Figure 17.19: Swath Plot for RT1001 - Eastings - Cu (%)	
Figure 17.20: Swath Plot for RT1001 - Northings - Cu (%)	
Figure 17.21: Swath Plot for 251 Zone - Elevations - Cu (%)	
Figure 19.1: Overall Site Plan	
Figure 19.2: Phase Tonnages and Copper Recovery	
Figure 19.3: Minto Phase Configuration	
Figure 19.4: Minto 2008 LOM Plan	
Figure 19.5: Phase Sequence	
Figure 19.6: Annual Benches Mined	
Figure 19.7: Schematic Plan Showing the Flooded Area 2, Routing of a Pit Discharge Chan	
Routing of the Re-established Minto Creek	
Figure 19.8 Case 1 Sensitivities	
Figure 19.9 Case 2 Sensitivities	
Figure 19.10 Case 3 Sensitivities	199

# **1** Executive Summary

#### Introduction

This technical report was compiled by SRK Consulting (Canada) Inc. ("SRK") to describe a new mineral resource estimate, update mine operational performance and describe the new life-ofmine plan. This report was compiled by the following qualified persons ("QP"): Brad Mercer, P.Geo., Sherwood Copper Corp., Susan Lomas, P.Geo. and Ali Shahkar, P.Eng. of Lions Gate Geological Consulting Inc. ("LGGC"), David Hendriks, P.Eng. of Techpro-Teched and Gordon Doerksen, P.Eng. and Dino Pilotto, P.Eng. of SRK.

The Minto Mine is 100% owned and operated by Minto Explorations Ltd. (MintoEx), a wholly owned subsidiary of Sherwood Copper Corporation ("Sherwood"). The mine is located 240 km northwest of Whitehorse, in the Yukon Territory, approximately a 3-hour drive. The operation is serviced via the Klondike Highway to Minto landing and then a 29 km all-weather gravel road to the mine. The Yukon River must be crossed at Minto Landing and in the summer months, a barge is used to ferry men and materials across the river. In the winter, an ice bridge is built and maintained. Road access to the mine is interrupted each spring and fall for up to 6 to 8 weeks during freeze-up and break-up of the river. A 1,300 m-long air strip located on the mine property is used when road access is not available. The mine has a modern 170-person modular trailer camp and catering facility to house and feed contractors and employees. In addition, there is an 18-man tent camp used for seasonal exploration personnel.

MintoEx holds approximately 2,746 hectares of Quartz Mining Leases and Quartz Mining Claims.

Electricity for the Minto facility is currently obtained from diesel-powered generators. In the 4<sup>th</sup> quarter of 2008, the mine will be connected to the Yukon grid system currently being extended from Carmacks to Pelly Crossing. Once grid power is connected, the price of electricity for the mine will reduce to less than 1/3<sup>rd</sup> of the cost of diesel generation. Over the next seven years, in addition to energy purchases, Minto is obligated to pay approximately \$16 M to the Yukon Energy Corp. ("YEC") as its contribution to the capital cost of the grid connection as set out in the power purchase agreement.

The Minto mine reached commercial production on October 1, 2007 after a 4-month commissioning period. The Minto ore yields good flotation recoveries at coarse grinds which has lead to an increase in plant throughput with minimal capital investment. Mill throughput of over 2,400 tonnes per day ("tpd"), and occasionally in excess of 3,000 tpd, has been achieved, even prior to the completion of a the Phase 3 plant expansion project.

A preliminary feasibility study ("PFS") was completed for the Area 2 deposit in November 2007 after a very successful exploration program in 2006. In 2007, two other exploration targets, Ridgetop and Area 118, were drilled to resource-quality levels and the Area 2 deposit was significantly expanded. These additional mineral resources are described in this report, although they are not yet included in the LOM plan. Exploration on the Minto property is ongoing, with a \$5.4 M program budgeted for 2008. Diamond drilling currently in process is designed to more fully define and, potentially, expand the mineral resources at Area 2, Area 118 and Ridgetop, as well as to explore additional mineralized targets.

Based on the results of the PFS, MintoEx applied to the Yukon government for an amendment to its Quartz Mining Licence in order to increase production from the Main deposit to 3,200 tpd, permission for which was granted in July 2008. A further amendment to its operating permit is expected to be filed in order to further increase production and modify operating parameters to accommodate other proposed operational improvements, as well as incorporate the mining of the Area 2 deposit and possibly Area 118 and Ridgetop. Such an application will need to await completion of 2008 drilling in these other areas, updated resource models and other additional technical work.

#### **Geology and Exploration**

The Minto Project is found in the eastern margin of the Yukon-Tanana Composite Terrain, which is comprised of several metamorphic assemblages and batholiths. Much of the Minto Property and the surrounding area are comprised of the Granite Mountain Batholith, which intruded into the Palaeozoic metamorphosed rocks of the Yukon-Tanana Terrain (Mortensen & Tafti, 2002). The Yukon-Tanana Composite Terrain is comprised of several metamorphic assemblages and batholiths and it is broadly contemporaneous with the Omineca Belt in nearby British Columbia.

In 2007, exploration concentrated on expanding the Area 2 resource and at Area 118, located west of and contiguous with Area 2, where Area 118 was identified as a possible extension of Area 2, based upon the recent resource model detailed in this report. Subsequent geological and resource block modelling conducted in 2007 – 2008 showed that the Area 2 and Area 118 deposits are continuous through a zone of transition between the two deposit areas. Much of what was initially considered to be Area 118 during the exploration drilling period was subsequently reassigned in the model to Area 2. This distinction was made on the basis of geological continuity and similarity of copper-gold grades. A joint model was completed in 2008 and a new NI43-101 resource calculation was released for both deposits on June 17, 2008. Mineralization at Area 2 and Area 118 is very similar in nature.

Also in 2007, MintoEx geologists reassessed the Ridgetop area in 2007 (ASARCO's original Area 1 discovery area) and drilled twenty-five new diamond drill holes, following up on sixteen historical holes from the 1970's and early 1990's. The subsequent interpretation and drill density allowed for the completion of a NI 43-101 compliant resource estimate for Ridgetop East. No

prior NI43-101 compliant resource estimate for Ridgetop had been calculated, despite it being the original discovery area at Minto. Mineralization at Ridgetop, where unoxidized, is similar in nature to all other deposits on the Minto Project, except that thicknesses are often much higher than average. However, given the near surface nature of the Ridgetop mineralization, it has undergone partial oxidation, resulting in abundant and sometimes complete replacement of the bornite and chalcopyrite with chalcocite.

Company geologists proposed in 2006 that the separate prospects and deposits mentioned above comprise a single large continuous to contiguous mineralized system that has subsequently been deformed; openly folded and cut by late regional faults; some with vertical displacements and some with inferred lateral displacements. The sum of MintoEx's drilling and geological modelling to date since 2005 continues to support the single system thesis and ongoing exploration work in 2008 and beyond will focus on creating a unified geological model for the property south of the DEF fault.

#### Mine Production and Mineral Reserve Estimate

The Minto Mine life-of-mine plan currently encompasses two open pits, Minto Main pit ("Main"), which is currently being mined, and Area 2 pit. The actual production data from the Main pit through to the end of July 2008 was combined with the proposed 2008 LOM plan and forms the basis of this technical review. Based on a start date of January 2008, the Main/Area 2 mine will produce a total of 9.2 million tonnes (Mt) of ore and 61.4 Mt of waste over a 8 year mine operating life ending in early 2015, with an additional year of processing low grade stockpiles, extending the mill operation until early 2016. The LOM plan focuses on accessing and milling high-grade ore first, with lower grade material sent to stockpiles for blending and processing later in the mine life.

Mine design for the Main and Area 2 pits was initiated with the development of a Net Smelter Return ("NSR") model. The model included estimates of metal prices, exchange rate, mining dilution, mill recovery, concentrate grade smelting and refining payables and costs, freight and marketing costs and royalties. The model was then used with the MineSight Lerchs-Grossman algorithm to determine the optimal mining shell. Detailed mine planning and scheduling was then conducted on the optimal pit shell to produce the current pit designs used for the 2008 LOM plan. The mineral reserves at Minto, including both Main pit and Area 2 are summarized in Tables 1.1 through to 1.3 below. The mineral reserve for the Main pit excludes mining that has taken place in 2006 and 2007 and includes drilling to the end of 2007. The mineral reserves for Area 2 are taken from the PFS. A 0.62% Cu cut-off was used within the planned pits.

Table 1.1: Minto – Mineral Reserves by Class for Main/Area 2 (at 0.62% Cu d)	ut-off)
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Classification	Tonnes (000's)	Copper (%)	Gold (g/t)	Silver (g/t)	Contained Cu (000's lbs)*	Contained Gold (000's oz)*	Contained Silver (000's oz)*
Proven	8,219	2.01	0.77	7.98	364,400	203.6	2,110
Probable	910	1.24	0.46	5.40	24,800	13.3	159
Total (P&P)**	9,129	1.93	0.74	7.73	389,200	216.9	2,267

\*Rounded to nearest thousand \*\*Totals may not add exactly due to rounding

#### Table 1.2: Minto – Mineral Reserves by Class for Main Pit (at 0.62% Cu Cut-off)

Classification	Tonnes (000's)	Copper (%)	Gold (g/t)	Silver (g/t)	Contained Cu (000's lbs)*	Contained Gold (000's oz)*	Contained Silver (000's oz)*
Proven	5,416	2.22	0.83	9.16	265,500	145.0	1,595
Probable	359	1.27	0.48	6.82	10,000	5.5	79
Total (P&P)**	5,774	2.16	0.81	9.01	275,500	150.5	1,673

\*Rounded to nearest thousand \*\*Totals may not add exactly due to rounding

#### Table 1.3: Minto – Mineral Reserves by Class for Area 2 (at 0.62% Cu Cut-off)

Classification	Tonnes (000's)	Copper (%)	Gold (g/t)	Silver (g/t)	Contained Cu (000's lbs)*	Contained Gold (000's oz)*	Contained Silver (000's oz)*
Proven	2,803	1.60	0.65	5.71	98,900	58.6	515
Probable	552	1.22	0.44	4.48	14,800	7.8	80
Total (P&P)**	3,355	1.54	0.62	5.51	113,700	66.4	594

\*Rounded to nearest thousand \*\*Totals may not add exactly due to rounding

Mining commenced in 2006 with pre-stripping in the Main pit and the first ore was produced in mid-2007. The post-2007 mining sequence was divided into six phases. The first three phases see the completion of mining in the Main pit followed by three phases in Area 2. The phases were designed, based on providing the required ore per period, to maximize grade and deferring stripping as long as possible. The Main and Area 2 pits are most economical when mined in sequence with the stripping of the Area 2 pit beginning near the completion of mining in the Main pit. Area 2 rock waste and tailings will then used to fill the Main pit. The LOM mine production schedule is shown in Table 1.4. Slight differences exist between the LOM schedule and the mineral reserves for the Main pit and may be attributable to actual production values provided for the first half of 2008.

ltem	Unit	2008*	2009	2010	2011	2012	2013	2014	2015	2016	Total
Mining											
Ore	Mt	1.51	1.26	2.67	0.40	0.81	1.27	1.12	0.14	-	9.18
Waste	Mt	9.26	10.11	8.05	10.15	10.35	9.97	3.50	0.02	-	61.41
Total	Mt	10.77	11.37	10.73	10.55	11.16	11.25	4.62	0.15	-	70.59
Strip Ratio	Wt:Ot	6.1	8.0	3.0	25.5	12.9	7.8	3.1	0.1	-	6.7
Daily mine production	Kt/day	29.4	31.2	29.4	28.9	30.6	30.8	12.7	15.2	-	27.5
Processing											
Processed Ore	Mt	0.88	1.17	1.17	1.17	1.28	1.28	1.28	1.28	0.21	9.70
Processing rate	dmt/day	2,392	3,200	3,200	3,200	3,500	3,500	3,500	3,500	3,420	3,252
Proc. Cu grade	%	3.14	2.98	2.40	1.48	1.67	1.57	1.38	0.95	0.80	1.86
Proc. Au grade	g/t	1.03	1.16	0.81	0.55	0.67	0.61	0.51	0.30	0.22	0.68
Proc. Ag grade	g/t	13.10	12.71	9.67	5.76	7.12	5.35	4.49	3.42	3.00	7.32
Cu recovery	%	93.7	94.0	94.0	94.0	91.9	91.9	91.9	91.9	91.9	92.8
Au recovery	%	77.2	80.0	80.0	80.0	68.8	68.8	68.8	68.8	68.8	73.6
Ag recovery	%	87.5	86.7	86.7	86.7	82.7	82.7	82.7	82.7	82.7	84.6
Cu recovered	Mlbs	56.7	72.1	58.2	35.8	43.2	40.6	35.7	24.6	3.4	370.4
Au recovered	Koz	22.3	35.0	24.2	16.5	18.9	17.2	14.4	8.5	1.0	158.1
Ag recovered	Koz	325.8	413.7	314.9	188.8	241.2	180.0	152.9	115.5	16.9	1,949

**Table 1.4: LOM Mine Production Schedule** 

\*2008 includes actual results from Jan-June and projected results for July

#### **Mineral Resources**

In 2007 and 2008 LGGC was contracted by Sherwood Copper to estimate updated mineral resource estimations for the Minto Mine Main deposit and Area 2 and new estimates for Area 118 and Ridgetop on the Minto Project located in Yukon. The estimates included drill holes completed by the end of December 2007, whereas the LOM plan only considers resources estimated based on drilling to the end of December 2006. A further update to the resources and LOM plan is planned once 2008 drilling is complete and results received.

Ali Shahkar, P.Eng., Principal Consultant with LGGC completed the mineral resource estimation update for the Minto Mine deposit in December of 2007 and Susan Lomas, P.Geo., Principal Consultant with LGGC completed the estimation work for Ridgetop, Area 2 and Area 118 in June of 2008.

Table 1.5 summarizes the results of the historical mineral resource estimates completed to date on the Minto Mine Deposit and Table 1.6 summarizes the historical estimates completed for the Area 2 deposit. The results for the most recent resource estimates are included in the tables for comparative purposes.

All the estimates are reasonably close in the tonnage and grade values reported for the Minto Mine.

Resource Model	Category	Cutoff	Tonnes>Cutoff	Gr	ade>Cu	toff
	Category	(Cu %)	(tonnes)	Cu (%)	Au (g/t)	Ag (g/t)
	Min	to Mine		(/0)	(3, -/	(3, 1)
Dec 2007 Model						
Main Zone	Measured plus	0.50	7,220,000	1.93	0.70	7.96
Other Zones	Indicated	0.50	750,000	0.91	0.28	4.64
Total		0.50	7,970,000	1.84	0.66	7.65
June 2006 Model						
Main Zone (80) Only		0.50	8,020,000	1.89	0.66	7.73
Other zones (40,5,2)	Measured plus Indicated	0.50	1,040,000	0.93	0.31	4.25
Total	indicated	0.50	9,060,000	1.78	0.62	7.33
Jan 2006 Model						
Main Zone (80) Only		0.50	7,790,000	1.90	0.60	7.90
Other zones (40,5,2)	Measured plus Indicated	0.50	720,000	0.90	0.28	4.02
Total		0.50	8,510,000	1.81	0.57	7.57
July 2005 Model						
Total	Measured plus Indicated	0.50	8,340,000	1.83	0.55	7.98
Dec 2007 Model						
Main Zone		0.50	-	-	-	-
Other Zones	Inferred	0.50	60,000	0.73	0.15	3.41
Total		0.50	60,000	0.73	0.15	3.41
June 2006 Model						
Main Zone (80) Only		0.50	-	-	-	-
Other zones (40,5,2)	Inferred	0.50	90,000	0.81	0.21	3.73
Total		0.50	90,000	0.81	0.21	3.73
Jan 2006 Model						
Main Zone (80) Only		0.50	30,000	1.26	0.83	6.94
Other zones (40,5,2)	Inferred	0.50	550,000	0.97	0.28	4.92
Total		0.50	580,000	0.98	0.30	5.03
July 2005 Model						
Total	Inferred	0.50	700,000	1.41	0.45	6.02

# Table 1.5: Summary of Minto Deposit Mineral Resources (Inclusive of Mineral Reserves)

The tonnages for Area 2 have increased from 7.6 Mt to 11.3 Mt in the measured and indicated resource categories and 1.4 Mt to 3.5 Mt in the inferred resource category. This is largely due to 2007 drilling confirming the presence of mineralization further to the south than was previously modeled (but not to include the results of 2008 drilling). The most recent resource estimate results quoted for the Minto Mine deposit (December 2007) are exclusive of material mined up to the 21<sup>st</sup> of December, 2007.

		Cutoff	Tonnes>Cutoff	Gr	ade>Cu	toff
Resource Model	Category	(Cu %)	(tonnes)	Cu (%)	Au (g/t)	Ag (g/t)
	A	rea 2	L			
June 2008 Model						
Total	Measured plus Indicated	0.50	11,310,000	1.13	0.40	3.79
Feb 2006 Model						
Total	Measured plus Indicated	0.50	7,600,000	1.26	0.48	4.30
June 2008 Model						
Total	Inferred	0.50	3,530,000	0.77	0.25	2.54
Feb 2006 Model						
Total	Inferred	0.50	1,380,000	1.01	0.33	1.93

In December of 2007 LGGC was commissioned by SWC to provide an update to the 2006 mineral resource estimate for the Minto Mine deposit originally completed by Gary Giroux and SWC. This updated estimate included the new data from the 2007 drilling program and accounted for the material removed by mining activity in 2007. LGGC was provided with the new drill hole data in the resource area and a 3-D pit surface representing the limits of the openpit at the Minto Mine as of December 21<sup>st</sup>, 2007.

In March 2008, LGGC was commissioned to provide an update to the 2006 mineral resource estimate for Area 2 originally completed by Ali Shahkar, P.Eng. of LGGC. Andrew Ham, MAusIMM, and Marek Nowak, P.Eng. of SRK Consulting both reviewed the estimation and found it reasonable for inclusion in this SRK technical report.

In 2007, new drilling to the south west of Area 2 had identified a body of mineralization called Area 118 that now contained sufficient drilling data to support an initial mineral resource estimation. Both of these estimates include geology and assay data from the 2007 drilling program.

In June 2008, LGGC completed a resource estimate for the Ridgetop deposit at the Minto Project. There are no historical resource estimates for this deposit.

The mineral resources of the Minto Mine and Area 2 model were classified using logic consistent with the CIM definitions referred to in National Instrument 43-101. The project mineral resources were classified into one of three categories; measured, indicated or inferred mineral resources.

All blocks within Area 118 and Ridgetop were classed into the inferred mineral resource category due to the current wide drill hole spacing and preliminary nature of the geology/grade model. MintoEx is currently infill drilling these areas and early indications are that the model is being

corroborated by these new holes but a detailed review is required before a higher level of classification can be assigned.

Table 1.7 contains the results of the resource estimation for Minto Mine, Area 2, Area 118 and Ridgetop copper, gold and silver values as of data available from March 2008. The resource estimate results are being declared using 0.50 % Cu cut-off. For comparative purposes additional cut-offs equal to 0.20, 0.30, 0.40, 0.75, 1.00, 1.50 and 2.00 % Cu are also presented in the table.

Due to uncertainty associated with Inferred Mineral Resources, additional exploration work on the property may or may not succeed in upgrading the portions of the deposit currently classified as Inferred Mineral Resource to an Indicated or Measured Mineral Resource. Because confidence in these portions of the estimate is insufficient to allow the meaningful application of technical and economic parameters or to enable an evaluation of economic viability worthy of public disclosure, the Inferred Mineral Resources must be excluded from estimates forming the basis of feasibility or other economic studies.

SRK Consulting Technical Report – Minto Mine

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		0	0.50 Cu Cut-Off	Cut-Off		0.	0.10 Cu Cut-Off	ut-Off		0	0.20 Cu Cut-Off	ut-Off		0.	0.30 Cu Cut-Off	ıt-Off		0	0.40 Cu Cut-Off	ut-Off	
Class	Zone	Tonnes	Cu %	Au g/t	Ag g/t	Tonnes	Cu %	Au g/t	Ag g/t	Tonnes	Cu %	Au g/t	Ag g/t	Tonnes	Cu %	Au g/t	Ag g/t	Tonnes	Cu %	Au g/t	Ag g/t
Measured	Minto Mine	6,790,000	1.98	0.72	8.12	7,760,000	1.77	0.65	7.32	7,460,000	1.83	0.67	7.56	7,350,000	1.86	0.68	7.66	7,100,000	1.91	0.70	7.85
Measured	Area 2	4,670,000	1.48	0.57	5.00	6,710,000	1.12	0.41	3.72	6,420,000	1.17	0.42	3.87	5,820,000	1.26	0.47	4.21	5,240,000	1.36	0.51	4.57
Measured	All Zones	11,460,000	1.77	0.66	6.85	14,470,000	1.47	0.54	5.65	13,880,000	1.53	0.56	5.85	13,170,000	1.59	0.59	6.13	12,340,000	1.68	0.62	6.46
Indicated	Minto Mine	1,190,000	1.03	0.30	4.97	3,620,000	0.52	0.14	2.40	2,870,000	0.62	0.17	2.84	2,160,000	0.73	0.20	3.40	1,490,000	0.91	0.26	4.27
Indicated	Area 2	6,640,000	0.88	0.29	2.93	17,720,000	0.50	0.14	1.63	13,610,000	0.61	0.18	2.00	11,440,000	0.68	0.21	2.24	9,040,000	0.77	0.24	2.54
Indicated	All Zones	7,830,000	0.91	0.29	3.24	21,340,000	0.51	0.14	1.76	16,480,000	0.61	0.18	2.15	13,600,000	0.69	0.21	2.42	10,530,000	0.79	0.24	2.78
Inferred	Minto Mine	60,000	0.73	0.15	3.58	380,000	0.36	0.08	1.40	320,000	0.40	0.09	1.55	190,000	0.49	0.11	2.06	110,000	0.60	0.13	2.75
Inferred	Area 2	3,530,000	0.77	0.25	2.54	16,970,000	0.35	0.09	1.14	10,740,000	0.47	0.12	1.57	7,410,000	0.57	0.16	1.94	5,420,000	0.66	0.20	2.20
Inferred	Area 118	6,590,000	0.97	0.27	3.07	32,070,000	0.41	0.09	1.30	23,190,000	0.51	0.12	1.59	16,620,000	0.62	0.14	1.89	11,030,000	0.76	0.19	2.33
Inferred	Ridgetop	4,890,000	0.85	0.23	2.01	9,170,000	0.60	0.16	1.52	8,350,000	0.65	0.17	1.61	7,310,000	0.70	0.19	1.74	6,040,000	0.78	0.21	1.88
Inferred	All Zones	15,070,000	0.88	0.25	2.61	58,590,000	0.42	0.10	1.29	42,600,000	0.53	0.13	1.59	31,530,000	0.63	0.16	1.87	22,600,000	0.74	0.19	2.18
Meas & Ind	Minto Mine	7,970,000	1.84	0.66	7.65	11,380,000	1.37	0.49	5.76	10,330,000	1.50	0.53	6.25	9,510,000	1.60	0.57	6.69	8,590,000	1.74	0.62	7.23
Meas & Ind	Area 2	11,310,000	1.13	0.40	3.79	24,430,000	0.67	0.22	2.21	20,030,000	0.79	0.26	2.60	17,260,000	0.88	0.29	2.90	14,280,000	0.99	0.34	3.29
Meas & Ind	All Zones	19,280,000	1.42	0.51	5.38	35,810,000	06.0	0.30	3.33	30,360,000	1.03	0.35	3.84	26,770,000	1.14	0.39	4.25	22,870,000	1.27	0.45	4.77

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1.7: Summary of Resource Estimation Results for the Minto Project
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		•	0.75 Cu Cut-Off	ut-Off			1.0 Cu Cut-Off	ut-Off			1.5 Cu Cut-Off	ut-Off		2	2.00 Cu Cut-Off	Cut-Off	
Class	Zone	Tonnes	Си %	Au g/t	Ag g/t	Tonnes	Cu %	Au g/t	Ag g/t	Tonnes	Cu %	Au g/t	Ag g/t	Tonnes	Cu %	Au g/t	Ag g/t
Measured	Minto Mine	5,810,000	2.20	0.81	9.01	4,890,000	2.46	06.0	10.10	3,690,000	2.85	1.04	11.85	2,670,000	3.28	1.21	13.83
Measured	Area 2	3,720,000	1.70	0.68	5.90	3,080,000	1.87	0.78	6.58	2,090,000	2.16	0.94	7.63	1,040,000	2.58	1.21	9.45
Measured	All Zones	9,530,000	2.01	0.76	7.80	7,970,000	2.23	0.86	8.74	5,780,000	2.60	1.01	10.32	3,710,000	3.08	1.21	12.60
ndicated	Minto Mine	770,000	1.26	0.37	6.12	500,000	1.47	0.44	7.11	170,000	1.96	0.57	9.32	50,000	2.53	0.84	12.74
Indicated	Area 2	2,860,000	1.25	0.44	4.26	1,500,000	1.62	0.59	5.63	690,000	2.10	0.74	7.33	340,000	2.49	0.83	8.53
Indicated	All Zones	3,630,000	1.25	0.43	4.66	2,000,000	1.58	0.55	6.00	860,000	2.07	0.71	7.72	390,000	2.50	0.83	9.07
Inferred	Minto Mine	20,000	1.16	0.25	6.19	10,000	1.42	0.30	8.12								
nferred	Area 2	1,360,000	1.05	0.38	3.41	460,000	1.41	0.57	4.91	160,000	1.85	0.71	6.62	40,000	2.17	0.86	8.05
nferred	Area 118	3,570,000	1.28	0.38	4.07	1,990,000	1.60	0.50	5.09	810,000	2.24	0.69	6.66	440,000	2.68	0.80	7.74
Inferred	Ridgetop	2,480,000	1.09	0.32	2.53	1,220,000	1.34	0.45	3.24	310,000	1.79	0.75	4.46	30,000	2.46	0.98	5.96
Inferred	All Zones	7,430,000	1.18	0.36	3.44	3,680,000	1.49	0.49	4.46	1,280,000	2.08	0.71	6.12	510,000	2.63	0.81	7.66
Meas & Ind	Minto Mine	6,590,000	2.09	0.76	8.67	5,390,000	2.37	0.86	9.82	3,860,000	2.81	1.02	11.74	2,720,000	3.26	1.20	13.82
Meas & Ind	Area 2	6,580,000	1.51	0.58	5.19	4,580,000	1.79	0.72	6.27	2,780,000	2.15	0.89	7.55	1,380,000	2.56	1.11	9.22
Meas & Ind	All Zones	13,170,000	1.80	0.67	6.93	9,970,000	2.10	0.79	8.19	6,640,000	2.53	0.97	9.99	4,100,000	3.03	1.17	12.27

June 30, 2008

#### Waste Management

Tailings from the mill will be sent to the currently permitted existing dry-stack location for the life of the Main pit. Upon completion of mining in the Main pit, slurried tailings and waste rock will be codeposited back into the Main pit. This plan is not yet permitted but offers a potentially viable solution to waste disposal that provides backfill material for the Main pit and reduces the amount disturbed land that would normally be required by mining Area 2.

Waste rock from the Main pit will be deposited in an expansion of the existing waste dump areas and in a new valley floor location that is currently being studied.

#### **Mineral Processing and Metallurgy**

Production commenced in June of 2007 at a rated tonnage of 1,563 tonnes per day. The plant was expanded in December of 2007 to a rated tonnage of 2,400 tonnes per day with the addition of flotation cells, two tailings filter presses and one additional ball mill.

Mill throughput and operating availability has been increasing steadily with time. In May and June of 2008, average availabilities approached 90% and in June throughput exceeded design capacity. The average tonnes milled per hour have increased to 113 in May and June 2008.

Metallurgical performance has been consistent over the period March-June 2008. Concentrate grades have averaged over 40% copper with recoveries averaging 93.6%. Silver recoveries have averaged 86.9% in the copper concentrate. Gold recovery averaged 80.8% in the first quarter of 2008 from a head grade of 1.79 g/t Au. As gold is not assayed on site, these are the most recent figures available.

The Phase 3 expansion is in progress to increase throughput to 3,200 tonnes per day. The current bottle neck is the SAG mill. The expansion plan is to open up the grates and install a one inch trommel screen on the SAG discharge, replacing the 5/8" trommel. Fortunately, the ball mills have extra capacity available as they are only drawing 72% of available power. The ball charge will be changed to 50% 3" and 2" balls from 2" balls to deal with the increased transfer size from the SAG mill.

The tailings filtration plant is performing well beyond design. Cycle times for the four currently in use are between 8.5 and 9 minutes and each cycle averages 6.5 wet tonnes of tailings, giving each filter a capacity in excess of 1,000 wet tonnes per day of tailings. It is expected that, when the 5<sup>th</sup> filter press is returned to tailings duty (from its current set up as an alternate concentrate filter to the Larox), there will be more than adequate capacity for the increased tonnage, after allowing for maintenance and availability.

An additional concentrate thickener will be installed to handle the increased concentrate tonnage as part of the Phase 3 expansion project.

#### Economics

A financial model was compiled by SRK based on the Minto LOM operations plan and the 2008 budget. The model includes taxation and excludes financing costs (debt and interest payments). Net annual cash flows were calculated by considering net smelter return from the payable Cu, Au and Ag metals, and then deducting the operating costs, capital costs and applicable taxes. The model includes updated mine plan results and revised operating ("OPEX") and capital ("CAPEX") costs. The new costs were estimated based on the experience of the past year of operation, on current and projected consumable costs and on capital project schedule updates.

Three cases were analyzed to show variability of results using different metal price assumptions. Metal prices were estimated by applying prices from the existing sales contract as shown in Table 1.8 and non-contract metal price assumptions for Case 1, shown in Table 1.9. Cases 2 and 3 used Case 1 non-contract metal prices less 15% and 30%, respectively. All three cases used the same mineral reserve, cost and production parameters.

#### Table 1.8: Summary of Forward Sales Contract Metal Pricing

Metal	Units	2007	2008	2009	2010	2011	Average
Copper	US\$/lb	3.08	2.88	2.49	2.19	2.12	2.50
Gold	US\$/oz	648	654	653	653	720	667
Silver	US\$/oz	11.76	11.90	11.90	11.90	13.68	12.26

Table 1.9: Summary	/ of Case 1	Non-contract Meta	I Pricing Assumptions
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Metal	Units	2008	2009	2010	2011	2012	2013	2014	2015	2016
Copper	US\$/lb	3.67	3.53	3.37	3.21	3.08	2.96	2.80	2.60	2.40
Gold	US\$/oz	900	900	900	900	900	900	900	900	900
Silver	US\$/oz	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5

The other main economic factors used in the cash flow analysis were:

- CAD:USD exchange rate of:
  - 1:1 (parity) for 2008;
  - 1.05:1 for 2009; and
  - 1.10:1 beyond 2009
- A discount rate of 10%;
- Nominal 2008 dollars; and
- No inflation.

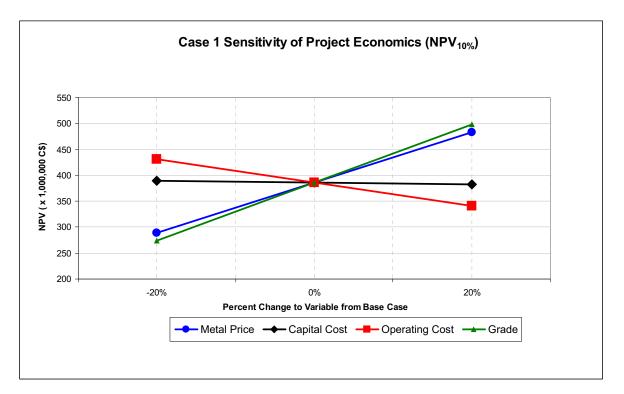
Costs, revenues and taxes were calculated for each period in which they occurred rather than at the actual date of payment. For example, taxes were calculated each month in the model even though they are actually paid only once per year.

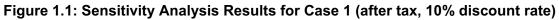
The results of the economic analysis are shown in Table 1.10. It must be noted that the net present value ("NPV") calculations in the financial model were done using 2008 as the starting year and do not take into account approximately \$150 M in capital spent in 2006 and 2007 for plant and mine construction. This methodology only looks at the project going forward from the beginning of 2008 and, therefore, shows high returns.

ltem	Unit	Case 1	Case 2	Case 3
Ave. Copper Price (inc. hedging)	US\$/lb	\$ 2.95	\$ 2.61	\$ 2.27
Ave. Gold price (inc. hedging)	US\$/oz	\$ 825	\$ 734	\$ 643
Ave. Silver price (inc. hedging)	US\$/oz	\$ 15.72	\$ 13.99	\$ 12.26
Ave. Exchange rate	C\$ per US\$	\$ 1.08	\$ 1.08	\$ 1.08
NSR	C\$/t milled	\$ 116	\$ 101	\$ 86
Unit OPEX with no by-product credit	C\$/lb Cu	\$ 1.22	\$ 1.22	\$ 1.22
Unit OPEX with Au and Ag credits	C\$/lb Cu	\$ 0.80	\$ 0.84	\$ 0.89
LOM Capital cost (2008 and later)	C\$M	\$ 33	\$ 33	\$ 33
NPV <sub>10%</sub> pre-tax	C\$M	\$ 471	\$ 372	\$ 273
NPV <sub>10%</sub> after tax	C\$M	\$ 386	\$ 313	\$ 241

#### Table 1.10: Comparison of Economic Model Results by Case

A sensitivity analysis was conducted for metal grade, metal price, OPEX and CAPEX and compared using after-tax NPV<sub>10%</sub> results. As shown in Figure 1.1 the mill head grade and metal prices had the most impact on NPV<sub>10%</sub> results. CAPEX had almost no impact as most of the capital for the project has been spent. A 20% change in OPEX gave a 12% NPV<sub>10%</sub> variation





The conclusions of note are:

- The Minto deposit, encompassing both Main pit and Area 2, represents a significant ore reserve. The current mining in the Main pit has helped confirm the expected grade and extent of the ore reserves and the detailed drilling has provided a good level of confidence in the reserve estimate.
- There are significant inferred resources in the Area 118 and Ridgetop deposits that are expected to be converted to a minimum classification of "indicated mineral resource" with relatively little drilling.
- The potential exists to improve the waste management system of the property in order to enhance productivity and reduce overall mine costs (i.e. valley fill spoils).

The most important opportunities to improve the project are:

- Optimization of mine plan;
- Waste deposition in the Minto Valley; and
- Conversion of inferred resources to higher classifications for further feasibility study.

#### Recommendations

- Develop a detailed mine plan schedule to smooth out the mill-feed grade profile and optimize the economics of the mine;
- Design of a detailed waste management plan for the Area 2 plan and for mine closure;
- Continue exploration drilling;
- Conduct a preliminary feasibility study of the entire mine combined with the new mineral resource estimates from Area 118 and Ridgetop when they have indicated and measured resources.

# 2 Introduction

This technical report was compiled for MintoEx by SRK to describe a new mineral resource estimate, update mine operational performance and describe the new life-of-mine plan.

Personal visits to the Minto site were conducted by the QPs shown in Table 2.1.

Table 2.1: QP Site Visits
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Name of QP	Area Reviewed					
Gordon Doerksen	Mine, dumps, tailings and general site					
Dino Pilotto	Mine, dumps, tailings and general site					
David Hendriks	Mill and tailings dewatering					
Brad Mercer	Review 2007 Drill Program					

Susan Lomas and Ali Shahkar did not conduct a site visit and have relied upon past knowledge of the site geology, core photographs and the reports and information of others in there work.

All units in this report are based on the International System of Units ("SI") and all currency values are Canadian dollars ("C\$") unless otherwise noted.

This report uses many common abbreviations and acronyms with explanations found in Section 22.

### 3 Reliance on Other Experts

This report relies upon the work and opinions of several non-SRK, non-QP experts without verification by SRK. The following list outlines the information provided by independent, third party experts to SRK:

- Vivienne McLennan, Project Supervisor, Sherwood Copper Corp. for assistance with geology, exploration and QA/QC;
- Dan Cornett, B.Sc., P.Bio., R.P. Bio., CCEP of Access Environmental Group for environmental information;
- Information contained in the July 2006 Detailed Feasibility Study for the Minto Project done by Hatch is used where still valid;
- The Minto 2008 LOM plan was scheduled by Gordon Zurowski, P.Eng of PEG Mining Consultants Inc.; and
- Corporate tax information specific to Minto was obtained from Wentworth Taylor, CA, of W.H. Taylor Inc., an independent taxation specialist.

SRK does not take responsibility for the accuracy or completeness of the contributions of the non-SRK experts.

Each QP in this report takes sole responsibility for their work.

### **4 Property Description and Location**

The following section was taken from Section 6 of the "Technical Report (43-101) for the Minto Project" by Hatch (August 2006) found on the sedar.com website. For the purposes of this report, the original tables and figures numbers have been adapted to this report.

"The Minto Project is located 240 km (150 miles) northwest of Whitehorse, Yukon (Figure 4.1). It lies in the Whitehorse Mining Division, as shown on the 2005/09/20 Yukon Energy Mines and Resources Minerals Resources Branch Mining Claim map sheet 115 I/11 (Figure 4.2). It is centered at approximately 62°37'N latitude and 137°15'W longitude (NAD 83, UTM Zone 8 coordinates 6945000N, 384000E). The Project is located on the west side of the Yukon River on Selkirk First Nation (SFN) settlement land. Highway 2 is located on the east side of the Yukon River. Accessibility is covered in Section 5.

The Minto Project consists of 284 claims. There are 120 pending quartz claims, 99 quartz claims and 65 quartz claims under lease. The claim and lease boundaries are shown on Figure 4.3. The 100% registered owner of the claims and leases is Minto Explorations Ltd. (MintoEx), a 100% owned subsidiary of Sherwood Copper Corp. The current status of the claims is given in Table 4-1 below. The quartz claims are in good standing until 2007/03/01 while the DEF leases are valid until 2007/10/07 and the Minto leases are valid until 2018/05/13. MintoEx made payment in lieu of assessment work of \$10,395.00 on February 27, 2006, for 99 quartz claims (Southwick, 2007).

# Table 4.1: Claim Status (from Whitehorse Mining District Recorder, GlennaSouthwick, 5 April 2006)

Claim Name	Number of Claims	Grant No.	Expiry Date	Туре
DEF 1 – 9	9	Y61693 - Y61701	10/07/07	L
DEF 10	1	Y61702	03/01/07	
DEF 11	1	Y61703	10/07/07	L
DEF 12	1	Y61704	03/01/07	
DEF 13 - 18	6	Y61705 - Y61710	10/07/07	L
DEF 19 - 30	12	Y61711 - Y61722	03/01/07	
DEF 31 - 32	2	Y61723 - Y61724	10/07/07	L
DEF 33 - 34	2	Y61978 - Y61979	10/07/07	L
DEF 35 - 36	2	Y61980 - Y61981	03/01/07	
DEF 37 - 38	2	Y61982 - Y61983	10/07/07	L
DEF 39 - 78	40	Y61984 - Y62023	03/01/07	
DEF 79 - 84	6	Y66779 - Y66784	10/07/07	LF
DEF 85 - 87	3	Y76964 - Y76956	03/01/07	F
DEF 1379	1	Y76953	10/07/07	L
Pending MEL 1 – 120	120	YC41187 - YC41306	02/23/07	
MINTO 1 - 16	16	Y61620 – Y61635	05/13/18	L
MINTO 17 - 18	2	Y61904 - Y61905	05/13/18	L
MINTO 19 - 20	2	Y61906 - Y61907	03/01/07	
MINTO 23 - 28	6	Y61914 - Y61919	03/01/07	
MINTO 29 - 30	2	Y61932 - Y61933	03/01/07	
MINTO 31	1	Y61920	03/01/07	
MINTO 32	1	Y61921	05/13/18	L
MINTO 33	1	Y61922	03/01/07	
MINTO 34	1	Y61923	05/13/18	L
MINTO 35 - 36	2	Y61908 - Y61909	05/13/18	L
MINTO 37 - 38	2	Y61910 - Y61911	03/01/07	
MINTO 41 - 44	4	Y61926 - Y61929	03/01/07	
MINTO 45 - 46	2	Y61930 - Y61931	05/13/18	L
MINTO 47 - 52	6	Y61934 - Y61939	05/13/18	L
MINTO 65 - 68	4	Y62296 - Y62299	05/13/18	L
MINTO 69	1	Y62300	03/01/07	
MINTO 70 - 71	2	Y62301 - Y62302 05/13/18		L
MINTO 72 - 73	2	Y62303 - Y62304	03/01/07	
MINTO 75 - 89	15	Y62305 - Y62319	03/01/07	
MINTO 94 - 95	2	Y77310 - Y77311	03/01/07	F
MINTO 96 - 97	2	Y78024 - Y78025	03/01/07	F
Total Claims	284	1		

120 92 59 6 7

Pending Quartz Claims Quartz Claims L = Quartz Claims Under Lease LF = Quartz Lease Full Quartz Fraction (25+acres) F = Full Quartz Fraction (25+acres) Total Claims

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Figure 4.1: Location Map

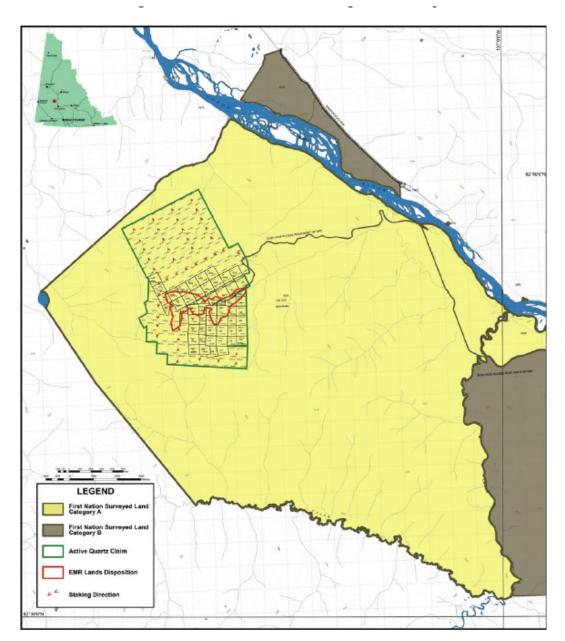


Figure 4.2: Mineral and Surface Rights Status Map

SRK Consulting Technical Report – Minto Mine

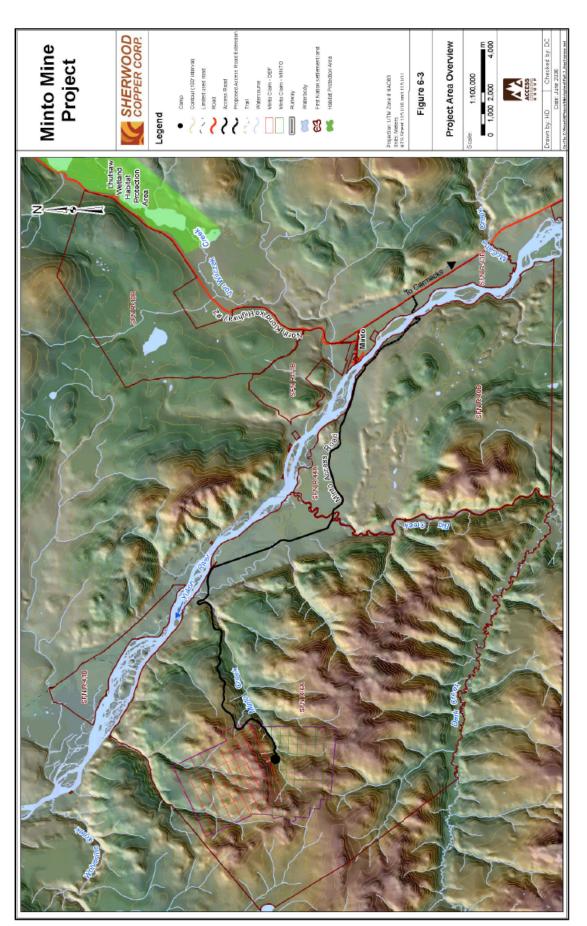


Figure 4.3: Mineral Claims Location Map

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There are 65 quartz claims under lease (summarized in Table 4.2). On April 7, 2006, a review of all leases was completed. The DEF leases are valid until 2007/10/07 and the Minto leases are valid until 2018/05/13. All 65 registered leases (100% owned by MintoEx) have been surveyed and are shown on Plans 64926, 59454 and 59648 (Minto Explorations, 2006).

Mining Lease No. Document	Contract Date	Lease Date Commenced	Lessor	Lessee	Claim	Grant	Legal Description
3298	Dec 30, 1988	Oct 7, 1986	Queen	UKHMC*	DEF 1	Y61693	Lot 1006, Grant 953, Parcel 64926
3299	Dec 30, 1988	Oct 7, 1986	Queen	UKHMC	DEF 2	Y61694	Lot 1002, Grant 953, Parcel 64926
3300	Dec 30, 1988	Oct 7, 1986	Queen	UKHMC	DEF 3	Y61695	Lot 1005, Grant 953, Parcel 64926
3301	Dec 30, 1988	Oct 7, 1986	Queen	UKHMC	DEF 4	Y61696	Lot 1001, Grant 953, Parcel 64926,
3302	Dec 30, 1988	Oct 7, 1986	Queen	UKHMC	DEF 5	Y61697	Lot 1007, Grant 953, Parcel 64926
3303	Dec 30, 1988	Oct 7, 1986	Queen	UKHMC	DEF 6	Y61698	Lot 1003, Grant 953, Parcel 64926
3304	Dec 30, 1988	Oct 7, 1986	Queen	UKHMC	DEF 7	Y61699	Lot 1008, Grant 953, Parcel 64926
3305	Dec 30, 1988	Oct 7, 1986	Queen	UKHMC	DEF 8	Y61700	Lot 1004, Grant 953, Parcel 64926
3306	Dec 30, 1988	Oct 7, 1986	Queen	UKHMC	DEF 9	Y61701	Lot 1009, Grant 953, Parcel 64926
3307	Dec 30, 1988	Oct 7, 1986	Queen	UKHMC	DEF 11	Y61703	Lot 1010, Grant 953, Parcel 64926,
3308	Dec 30, 1988	Oct 7, 1986	Queen	UKHMC	DEF 13	Y61705	Lot 81, Grant 953, Parcel 59454
3309	Dec 30, 1988	Oct 7, 1986	Queen	UKHMC	DEF 14	Y61706	Lot 85, Grant 953, Parcel 59454
3310	Dec 30, 1988	Oct 7, 1986	Queen	UKHMC	DEF 15	Y61707	Lot 87, Grant 953, Parcel 59454
3311	Dec 30, 1988	Oct 7, 1986	Queen	UKHMC	DEF 16	Y61708	Lot 89, Grant 953, Parcel 59454
3312	Dec 30, 1988	Oct 7, 1986	Queen	UKHMC	DEF 17	Y61709	Lot 91, Grant 953, Parcel 59454
3313	Dec 30, 1988	Oct 7, 1986	Queen	UKHMC	DEF 18	Y61710	Lot 93, Grant 953, Parcel 59454
3314	Dec 30, 1988	Oct 7, 1986	Queen	UKHMC	DEF 31	Y61723	Lot 80, Grant 953, Parcel 59454
3315	Dec 30, 1988	Oct 7, 1986	Queen	UKHMC	DEF 32	Y61724	Lot 1000, Grant 953, Parcel 64926
3316	Dec 30, 1988	Oct 7, 1986	Queen	UKHMC	DEF 33	Y61978	Lot 79, Grant 953, Parcel 59454
3317	Dec 30, 1988	Oct 7, 1986	Queen	UKHMC	DEF 34	Y61979	Lot 78, Grant 953, Parcel 59454
3318	Dec 30, 1988	Oct 7, 1986	Queen	UKHMC	DEF 37	Y61982	Lot 77, Grant 953, Parcel 59454
3319	Dec 30, 1988	Oct 7, 1986	Queen	UKHMC	DEF 38	Y61983	Lot 76, Grant 953, Parcel 59454
3320	Dec 30, 1988	Oct 7, 1986	Queen	UKHMC	DEF 79FR	Y66779	Lot 91, Grant 953, Parcel 59454
3321	Dec 30, 1988	Oct 7, 1986	Queen	UKHMC	DEF 80FR	Y66780	Lot 82, Grant 953, Parcel 64926
3322	Dec 30, 1988	Oct 7, 1986	Queen	UKHMC	DEF 81FR	Y66781	Lot 84, Grant 953, Parcel 59454
3323	Dec 30, 1988	Oct 7, 1986	Queen	UKHMC	DEF 82FR	Y66782	Lot 86, Grant 953, Parcel 59454
3324	Dec 30, 1988	Oct 7, 1986	Queen	UKHMC	DEF 83FR	Y66783	Lot 88, Grant 953, Parcel 59454
3325	Dec 30, 1988	Oct 7, 1986	Queen	UKHMC	DEF 84FR	Y66784	Lot 90, Grant 953, Parcel 59454

#### Table 4.2: Leases

Mining Lease No. Document	Contract Date	Lease Date Commenced	Lessor	Lessee	Claim	Grant	Legal Description
3326	Dec 30, 1988	Oct 7, 1986	Queen	UKHMC	DEF 1379FR	Y76953	Lot 92, Grant 953, Parcel 59454
0W0001	Dec 30, 1988	Oct 7, 1986	Queen	Minto**	Minto 1	Y61620	Lot 83, Grant 953, Parcel 59454
0W0002	Dec 30, 1988	Oct 7, 1986	Queen	Minto	Minto 2	Y61621	Lot 116, Grant 953, Parcel 59454
0W0003	Dec 30, 1988	Oct 7, 1986	Queen	Minto	Minto 3	Y61622	Lot 107, Grant 953, Parcel 59454
0W0004	Dec 30, 1988	Oct 7, 1986	Queen	Minto	Minto 4	Y61623	Lot 115, Grant 953, Parcel 59454
0W0005	Dec 30, 1988	Oct 7, 1986	Queen	Minto	Minto 5	Y61624	Lot 114, Grant 953, Parcel 59454
0W0006	Dec 30, 1988	Oct 7, 1986	Queen	Minto	Minto 6	Y61625	Lot 109, Grant 953, Parcel 59454
0W0007	Dec 30, 1988	Oct 7, 1986	Queen	Minto	Minto 7	Y61626	Lot 113, Grant 953, Parcel 59454
0W0008	Dec 30, 1988	Oct 7, 1986	Queen	Minto	Minto 8	Y61627	Lot 110, Grant 953, Parcel 59454
0W0009	Dec 30, 1988	Oct 7, 1986	Queen	Minto	Minto 9	Y61628	Lot 96, Grant 953, Parcel 59454
0W0010	Dec 30, 1988	Oct 7, 1986	Queen	Minto	Minto 10	Y61629	Lot 101, Grant 953, Parcel 59454
0W0011	Dec 30, 1988	Oct 7, 1986	Queen	Minto	Minto 11	Y61630	Lot 97, Grant 953, Parcel 59454
0W0012	Dec 30, 1988	Oct 7, 1986	Queen	Minto	Minto 12	Y61631	Lot 102, Grant 953, Parcel 59454
0W0013	Dec 30, 1988	Oct 7, 1986	Queen	Minto	Minto 13	Y61632	Lot 98, Grant 953, Parcel 59454
0W0014	Dec 30, 1988	Oct 7, 1986	Queen	Minto	Minto 14	Y61633	Lot 103, Grant 953, Parcel 59454
0W0015	Dec 30, 1988	Oct 7, 1986	Queen	Minto	Minto 15	Y61634	Lot 99, Grant 953, Parcel 59454
0W0016	Dec 30, 1988	Oct 7, 1986	Queen	Minto	Minto 16	Y61635	Lot 104, Grant 953, Parcel 59454
0W0017	Dec 30, 1988	Oct 7, 1986	Queen	Minto	Minto 17	Y61904	Lot 100, Grant 953, Parcel 59454
0W0018	Dec 30, 1988	Oct 7, 1986	Queen	Minto	Minto 18	Y61905	Lot 105, Grant 953, Parcel 59454
0W0019	Dec 30, 1988	Oct 7, 1986	Queen	Minto	Minto 32	Y61921	Lot 94, Grant 953, Parcel 59454
0W0020	Dec 30, 1988	Oct 7, 1986	Queen	Minto	Minto 34	Y61923	Lot 95, Grant 953, Parcel 59454
0W0021	Dec 30, 1988	Oct 7, 1986	Queen	Minto	Minto 35	Y61908	Lot 117, Grant 953, Parcel 59454
0W0022	Dec 30, 1988	Oct 7, 1986	Queen	Minto	Minto 36	Y61909	Lot 106, Grant 953, Parcel 59454
0W0023	Dec 30, 1988	Oct 7, 1986	Queen	Minto	Minto 45	Y61930	Lot 129, Grant 953, Parcel 59454
0W0024	Dec 30, 1988	Oct 7, 1986	Queen	Minto	Minto 46	Y61931	Lot 118, Grant 953, Parcel 59454
0W0025	Dec 30, 1988	Oct 7, 1986	Queen	Minto	Minto 47	Y61934	Lot 128, Grant 953, Parcel 59454
0W0026	Dec 30, 1988	Oct 7, 1986	Queen	Minto	Minto 48	Y61935	Lot 119, Grant 953, Parcel 59454
0W0027	Dec 30, 1988	Oct 7, 1986	Queen	Minto	Minto 49	Y61936	Lot 127, Grant 953, Parcel 59454
0W0028	Dec 30, 1988	Oct 7, 1986	Queen	Minto	Minto 50	Y61937	Lot 120, Grant 953, Parcel 59454
0W0029	Dec 30, 1988	Oct 7, 1986	Queen	Minto	Minto 51	Y61938	Lot 126, Grant 953, Parcel 59454
0W0030	Dec 30, 1988	Oct 7, 1986	Queen	Minto	Minto 52	Y61939	Lot 121, Grant 953, Parcel 59454
0W0031	Dec 30, 1988	Oct 7, 1986	Queen	Minto	Minto 65	Y62296	Lot 125, Grant 953, Parcel 59454
0W0032	Dec 30, 1988	Oct 7, 1986	Queen	Minto	Minto 66	Y62297	Lot 122, Grant 953, Parcel 59454
0W0033	Dec 30, 1988	Oct 7, 1986	Queen	Minto	Minto 67	Y62298	Lot 124, Grant 953, Parcel 59454
0W0034	Dec 30, 1988	Oct 7, 1986	Queen	Minto	Minto 68	Y62299	Lot 123, Grant 953, Parcel 59648
0W0035	Dec 30, 1988	Oct 7, 1986	Queen	Minto	Minto 70	Y62301	Lot 111, Grant 953, Parcel 59648
0W0036	Dec 30, 1988	Oct 7, 1986	Queen	Minto	Minto 71	Y62302	Lot 112, Grant 953, Parcel 59648

\* UKHMC = United Keno Hills Mining Company

\*\* MINTO = Minto Explorations Ltd.

An independent title opinion for the claims or leases was completed by Austring, Fendrick, Fairman and Parkkari on April 11, 2006, and the findings are quoted below (Southwick, 2006).

"As requested we have examined title to the Minto quartz mining claims (the "Minto Claims") and the Minto leases (the "Minto Leases") (collectively referred to as the "Mining Property") in the Whitehorse Mining District of the Yukon Territory, more particularly described in the claim ownership sheet dated April 5, 2006, from the Whitehorse Mining District Mining Recorder, Glenna Southwick.

We have obtained Abstracts of Record from the office of the Whitehorse Mining Recorder dated March 1, 2006. Our opinion is limited to the extent of our review and accordingly it is also subject to the following qualifications:

• With respect to the Minto Claims we express no opinion as to the validity and accuracy of the staking, recording and location of the mineral properties. Until a property is surveyed by an authorized Canada Lands Surveyor in accordance with instructions from the Surveyor General and such survey is duly approved, the boundaries of a mineral claim cannot be considered to be settled.

• This opinion is subject to statutory priorities and preferences and to any liens, encumbrances or other charges, which are extant and still within time for registration or which are valid without registration in the office of the Mining Recorder for the Whitehorse Mining District.

Based on and subject to the foregoing, we are of the opinion that as of March 1, 2006, the date of the Abstracts of Record:

- Minto Explorations Ltd. holds a 100% interest in the Minto Claims and Minto Leases;
- That the expiry dates listed on the attached Schedule "A" are correct; and
- The Mining Property is in good standing and there are no registered liens or encumbrances registered against the Mining Property except for an Agreement registered by Selkirk First Nations, being a Notice of Royalty and Restriction of Transfer Agreement dated April 28, 1999 and registered on April 28, 1999 as instrument number RW01459." (This royalty is 0.5% NSR).

The property lies within the Selkirk First Nation SFN R-6A, First Nation Settlement and Surveyed Land, Class A as shown on Figure 4.2. In 1997, Minto Explorations and the Selkirk First Nations entered into a co-operation agreement with respect to the development of the Minto deposit and subsequently registered the 0.5% net smelter royalty mentioned above."

### 4.1 References

Minto Explorations Ltd. Claim/Abstract Review, Austring, Fendrick, Fairman & Parkkari, April 11, 2006 DEF, MINTO Mineral Claims Renewal Certificate No. QW27877, Glenna Southwick, Mining Recorder, February 27, 2006."

# 5 Accessibility, Climate, Local Resources, Infrastructure and Physiography

The following section was taken from Section 7 from the "Technical Report (43-101) for the Minto Project" by Hatch (August 2006) found on the sedar.com website. For the purposes of this report, the original tables and figures numbers have been adapted to this report.

In addition to the information in the Hatch report, it should be noted that the grid power project is nearly completion and is expected to provide power from the Yukon Energy Corp. grid to the mine in the 4<sup>th</sup> quarter of 2008. The power project is described in greater detail in Section 18.1.

### 5.1 Accessibility

"The Minto Project is accessible from Whitehorse, Yukon by means of the Klondike Highway (YTG Highway No. 2) to Minto Crossing (240 km) (150 mi) (see Figure 5.1). It can also be reached by barge in the summer or by ice bridge across the Yukon River in the winter. A 28.8 km long, 10 m wide gravel access road provides access from the west side of the Yukon River to the project site (see Figure 5.3). The highway, river crossing and gravel access road are suitable for heavy transport traffic. Storage capacity for consumables at the mine site will be for 2 ½ months time which, historically, is sufficient for the impassable freeze up period or thaw period of the Yukon River. Normally, operations personnel will be transported weekly to the site in 47 passenger commercial buses based out of Whitehorse. During the river freeze and thaw periods, personnel will be transported from the airstrip on the east side of the river to the site airstrip (recently refurbished). The barge will have a 63,500 kg (140,000 lb) net capacity. B-train transport trailers will be transported across the river one at a time.

The road from the Yukon River to the project site is a well maintained class "A" all-weather gravel road, complete with drainage ditches, road signage and runaway lanes on steeper downhill sections. Roadbed material is fluvial sand or gravel along its lower reaches along the Yukon River and coarse sand along its upper reaches. For the most part the road is constructed on stable south facing slopes, which do not have permafrost, except for one short section where insulating tech cloth was laid down prior to the road fill to keep the permafrost from melting and eroding. The road crosses one major tributary of the Yukon River, Big Creek, by way of a single lane bridge made with reinforced concrete abutments and deck (Figure 5.1). The approaches to the bridge have been stabilized with berms and a spillway constructed to divert floodwaters exceeding the bridge capacity.



Figure 5.1: Big Creek Bridge

### 5.2 Climate

The climate in the Yukon is sub-Arctic continental with short cool summers and long cold winters. The average temperature in the summer is  $10^{\circ}$ C and the average temperature in the winter is  $-20^{\circ}$ C. Average precipitation is limited to about 25 cm of rain equivalent per annum in the form of rain and snow. The weather does not impede year round commercial operations in the Yukon, including outdoor activities in the winter, except in the harshest cold snaps when temperatures may plummet to  $-50^{\circ}$ C. The Cyprus Anvil open pit lead/zinc mine at Faro, not far from the project, operated successfully for many years in this climate.

### 5.3 Local Resources and Infrastructure

There is a parking lot and barge dock at Minto Landing, with a short gravel road connecting to Highway 2. Most services are available at Carmacks, 75 km (46 mi) south of Minto. Some services are available at Pelly Crossing, 35 km (22 mi) to the north of Minto. There is a 54-person ATCO trailer camp/kitchen facility at the mine site. There is a trailer pump house with a water pump and filtration tanks that are supplied by a potable water well located adjacent to the pump house. This potable water well is sufficient for the mine development camp additions and operations camp expansions. There is an existing artic sewage system that will be expanded during mine development, if deemed necessary. There is an on-site portable diesel generator fueled from a fuel tank located beside the camp. Foundations for the mill building were previously constructed.

The project is located 240 km from Whitehorse, the capital of Yukon Territory. Whitehorse, with a population of ~20,000, is serviced by daily commercial flights from British Columbia, Alberta and other northern communities. There are all-weather paved highways to the south and west to the port of Skagway, Alaska. There is daily freight service from Edmonton by Pacific Northwest Freight Systems, where Clark Builders have their offices. Some construction shipments will come out of Vancouver. Historically, mining has been the Yukon's most important source of income. The Yukon-White Pass Railroad previously provided rail service from Whitehorse to the port at

Skagway, Alaska. Concentrate from the Faro Mine was previously transported to Whitehorse by truck and by rail to Skagway. When Faro Mine closed down the railroad also closed (except for tourist excursions). When the Faro mine reopened for a short period of time the railway was not available and the concentrate was trucked to Stewart, B.C., for shipping overseas.

# 5.4 Physiography

The property lies in the Dawson Range, which is part of the Klondike Plateau, an uplifted surface that has been dissected by erosion. Topography in the area consists of rounded rolling hills and ridges with relief of up to 600 m (2000 ft). The highest elevation on the property is 975 m (3200 ft) above sea level, compared to elevations of 460 m (1500 ft) along the Yukon River. The property is at a height of land where slopes are relatively gentle, thereby providing accessible areas for waste storage and tailings containment for the anticipated development. The hills and ridges often have spines of bedrock outcrops at their crests; elsewhere bedrock exposures are limited in the area.

Overburden is colluvium primarily made up of sand derived from decomposition of the largely granitic bedrock in the area and is generally thin but pervasive. In south-facing locations, this material provides a well-drained, sound foundation for buildings and roads. The north-facing slopes in the area are permanently frozen solid with permafrost. Vegetation in the area is sub-Arctic boreal forest made up of largely spruce evergreen trees and poplar deciduous trees. The trees prefer well-drained south-facing slopes and may be sparse on the north-facing slopes where moss and alder 'buck brush' prevails. The area was burned over by several wild fires, the latest of which was in 1997, and is now devoid of mature living trees. Many of the burnt trees have blown down."

# 6 History

Production results for 2007, the first year of mining on the property, are shown in Table 6.1. Commercial production was declared on October 1, 2007 after a 4-month commissioning period. Results for the first half of 2008 have shown a consistent increase in production and recovery as the mill facility optimization plans are carried out and mill expansion plans are implemented. The positive processing results at Minto have been largely driven by the amenability of the ore to flotation at a coarse primary grind size.

	2007					
	Q1 + Q2	Q3	Q4	Total		
Mining		· · · ·				
- Waste (tonnes)	4,846,319	2,127,252	2,291,004	9,264,575		
- Ore (tonnes)	24,793	600,261	121,273	746.327		
- Total material mined (tonnes)	4,871,112	2,727,513	2,412,277	10,010,902		
- Copper grade (%)	1.09	1.72	2.17	1.70		
- Gold grade (g/t) - estimated	0.15	0.45	0.61	0.45		
- Silver grade (g/t)	4.34	6.20	8.10	6.80		
Milling						
- Tonnes processed	20,253	117,382	100,811	238,446		
- Copper grade (%)	1.64	1.90	2.57	2.16		
- Gold grade (g/t)*	N/A	N/A	N/A	N/A		
- Silver grade (g/t)	5.06	6.93	9.13	7.70		
Recoveries	•	•				
- Copper (%)	64.8	78.1	93.7	85.1		
- Gold (%)*	N/A	N/A	N/A	N/A		
- Silver (%)	61.3	68.6	87.7	77.5		
Concentrate	•	•		-		
- Dry tonnes produced	580	4,964	7,086	12,630		
- Copper grade (%)	37.1	35.1	34.3	34.7		
- Gold grade (g/t)*	N/A	9.8	11.4	N/A		
- Silver grade (g/t)	108.3	112.4	113.8	113.0		
Production (contained in concentrat	es)					
- Copper (000's lbs)	474	3,836	5,351	9,661		
- Gold (oz)*	N/A	N/A	N/A	N/A		
- Silver (oz)	2,018	17,938	25,929	45,885		

### Table 6.1: 2007 Operating Results

\* Gold is not assayed on site. Gold values are obtained from smelter returns.

The following section was taken from Section 8 from the "Technical Report (43-101) for the Minto Project" by Hatch (August 2006) found on the sedar.com website. For the purposes of this report, the original tables and figures numbers have been adapted to this report.

Mineral exploration on the Minto property has been conducted since 1971. Exploration efforts by MintoEx since July 2005 are explained in Section 12.1 MintoEx 2005-2006, and a description of drilling during this time is contained in Section 13.0 Drilling.

# 6.1 Chronology

A history of mineral exploration in the area is summarized below.

1970

• Regional stream sediment geochemical survey by the Dawson Syndicate, a joint venture between Silver Standard Mines Ltd. and Asarco Inc.

1971

- Follow-up of stream sediment anomalies and staking of the Minto claims in July
- Soil sampling, IP geophysical surveys and manual excavated prospect pits on the Minto claims
- 7 diamond drill holes (1,158 m)
- DEF claims staked by United Keno Explorations, a joint venture between United Keno Hill
- Mines, Falconbridge Nickel and Canadian Superior Explorations, to cover follow-up prospecting
- IP and VLF-EM geophysical surveys, soil sampling and mapping on the DEF claims

1972

- Mapping, airstrip construction and bulldozer trenching, 12 diamond drill holes (1,871m) on 4 zones on the Minto claims
- Grid soil sampling and bulldozer trenching on the DEF claims

1973

- 62 diamond drill holes (7,887 m) on the Minto claims
- Bulldozer trenching, EM and magnetic geophysical surveys and 41 diamond drill holes (7,753 m) on the DEF claims
- Main mineralized body discovered in June

1974

- Winter road built from Yukon Crossing and 58 diamond drill holes (11,228 m) on the Minto claims
- Additional geophysics, rock mechanics, feasibility studies and 52 diamond drill holes (8,238 m) on the DEF claims

#### 1975-1976

• Joint feasibility studies

#### 1984

- Silver Standard changed its name to Consolidated Silver Standard and transferred its interest in the Minto claims to Western Copper Holdings, a subsidiary of Teck Corp
- 5 percussion drill holes (518 m) on the DEF claims

### 1989

- Western Copper Holdings transferred its interest in the Minto claims to Teck Corp
- 84 percussion drill holes (4,897 m) on the DEF claims

### 1993

- MintoEx was formed
- Asarco and Teck sold their interest in the Minto claims (and leases) for shares in MintoEx and provided \$375,000 in working capital
- Asarco and Teck also received a net smelter royalty of 1.5% to be divided evenly
- Falconbridge, the parent of United Keno Hill, sold its interest in the DEF claims to MintoEx for \$1 million, payment due in 1996
- Falconbridge was granted an option to repurchase the DEF claims on January 1, 2005 if the deposit was not in production by then
- MintoEx carried out an airborne geophysical survey and drilled 8 diamond drill holes (960 m)

### 1994

- Initial public offering of shares of MintoEx completed
- 5,912,501 shares were issued and outstanding with Asarco the majority shareholder with 3,297,500 shares (55.8%)
- 19 diamond drill holes (2,185 m)
- Feasibility study began with engineering and geo-technical studies

### 1995

- 6 diamond drill holes (572 m) on magnetic anomalies and 1 condemnation diamond drill hole north of the proposed mill site
- Feasibility study completed, reserves are 8,818,000T of 1.73% Cu, 0.014 oz/t Au and 0.22 oz/t Ag at 0.5% Cu cut-off grade
- Recoveries are 95% for Cu and 85% for Au and Ag
- Mine life was projected to be 12 years at production rate of 477,000 tonnes per year

#### 1996

- Funding arranged with Asarco to bring the deposit into production whereby Asarco would provide up to US\$25 million. Under the funding arrangement, Asarco would acquire a 70% interest in the project, MintoEx would retain a 30% interest and remain as operator
- MintoEx makes the \$1 million payment to Falconbridge for the DEF claims completing the consolidation of the Minto and DEF claims
- 16 km access road constructed including a barge landing site on the west side of the Yukon River and a bridge over Big Creek
- 4 diamond drill holes (545 m)

#### 1997

- A further 12.8 km of road construction to complete the new access road
- Site for camp excavated
- 72 m water well for domestic water supply
- Mill site excavated and 2 used grinding mills moved onto site using an ice bridge over the Yukon River
- Co-operation agreement signed with SFN

#### 1998

- Mill concrete foundations poured with cement trucks from Whitehorse barged across the Yukon River
- Type A Water licence granted by Yukon government
- Concentrator design completed
- Access road completed, camp constructed and the location of the proposed tailings dam was grouted
- Phase 1 open pit mining plan completed

#### 1999

- Production licence received
- Five diamond drill holes (957 m) for engineering purposes

#### 2000

- Minor maintenance of on-site facilities
- Hatch completes review of 1995 feasibility study

#### 2001

- Additional maintenance of camp facilities
- 5 confirmation diamond drill holes (552 m) in the centre of the deposit
- Most of the Asarco core and all of the Falconbridge core destroyed by time and forest fire
- Regional airborne magnetic and radiometric surveys carried out by the Yukon government

2002

- A limited amount of the old Asarco core that could be recovered was re-sampled
- All the drill and geophysical data compiled in a data base to aid further exploration
- 3 Landsat anomalies examined and prospected
- Road maintenance scheduled to keep permits active
- Asarco bought 100,000 shares of MintoEx to hold a total of 3,397,500 shares

### 2004

• MintoEx announces all its shares are for sale

# 6.2 Drilling

The project has been actively explored since the early 1970's. ASARCO and Falconbridge drilled on the property in 1973 and 1974. MintoEx completed further drilling programs between 1993 and 2001. Since Sherwood's acquisition, MintoEx has completed two drilling programs on the property, in 2005 and 2006. Table 6.2 includes a list of the drilling programs completed in the area of the deposit.

Company	Year	No. DDH	Туре	Core Size	Metres	Angled	Vertical
ASARCO	1973	58	DDH	BQ	7432		58
ASARCO	1974	19	DDH	BQ	2603		19
Falconbridge	1973	29	DDH	BQ	5822	11	18
Falconbridge	1974	49	DDH	BQ	7563		49
MintoEx	1993	8	DDH	HQ	960		8
MintoEx	1994	1	DDH	HQ	101		1
MintoEx	1996	4	DDH	NQ	548		4
MintoEx	1999	1	DDH	HQ	136	1	
MintoEx	2001	5	DDH	HQ	554		5
MintoEx	2005	44	DDH	NQ	5369	8	36
MintoEx	2005	5	RC	-	568		5
MintoEx	2006	25	DDH	NQ	4119		25

Table 6.2: Summary of Drill Holes Included in the Resource Estimation

# 6.3 ASARCO and Falconbridge 1972 to 1974

Most of the drilling on the property was performed in the early 1970s by Falconbridge and ASARCO during the initial exploration on the property. Subsequent definition drilling was conducted once the

deposit was discovered and exploration continued in the area. The project reports fail to detail the drilling procedures, but basic drilling procedures have changed little over time.

Early drilling was conducted with BQ drill rods, which return a core diameter of 1.43 in. Within the main zone of the deposit, the drill hole density is on 100 ft centres on the DEF (Falconbridge) part of the deposit (locally as close as 50 ft), and generally on 150 ft to 200 ft centres on the Minto (ASARCO) side as illustrated in Figure 6.1. Figure 6.2 shows a typical cross-section through the deposit.

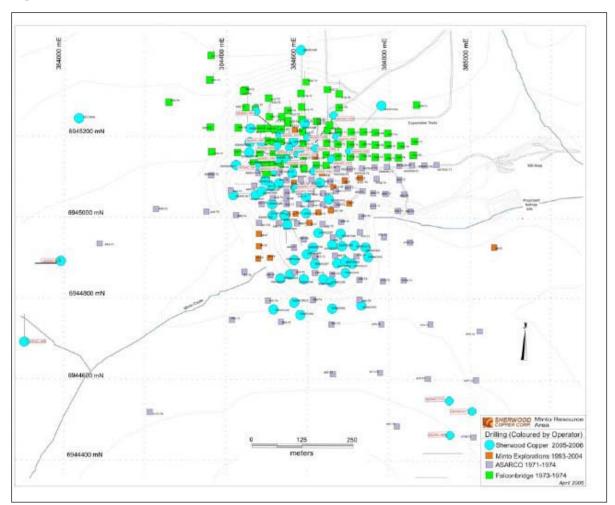
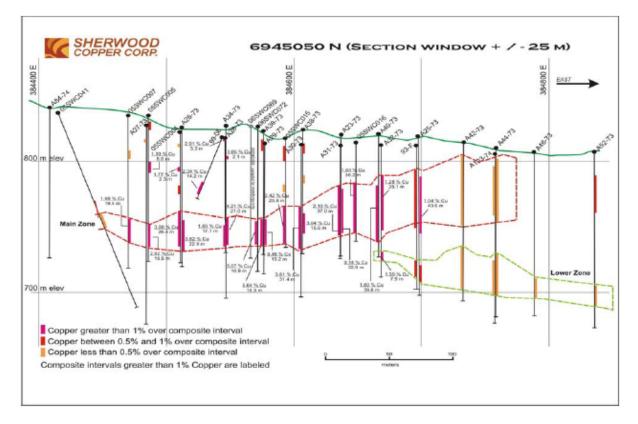


Figure 6.1: Drill Hole Location Map



## Figure 6.2: Typical Cross Section, Section 6945050N

Falconbridge drilled 11 angled holes, and all other holes were drilled vertically. The average sample length for ASARCO is 2.4 m with the majority of samples being either 1.5 m or 3.0 m long. The average sample length for the Falconbridge drill holes is 1.5 m.

The locations of the holes were surveyed in by Underhill Geomatics using a local grid controlled by local benchmarks. The drill roads and pads for this drilling are still visible and the holes are often identifiable by casing and/or wooden posts protruding from the ground, although the labels are no longer attached or legible.

The core from this drilling was stored onsite in two core sheds. Over time the sheds have collapsed and/or have been burned out by wildfires, rendering most of the core unusable. In addition, the labels on the few remaining intact boxes are missing and/or are not legible.

In their compilation of the results, MintoEx has distinguished the ASARCO drill holes with an 'A' prefix and the Falconbridge hole with a 'K' prefix.

The results of this drilling have been instrumental in estimating the grade and tonnage of the deposit. The drilling was carried out using accepted practices of the time and is documented well enough to be reliable for the purposes of grade and tonnage estimations, particularly when compared to the results of subsequent infill drill completed by MintoEx in 1993-2001 and MintoEx in 2005-06.

## 6.4 MintoEx 1993 to 2001

MintoEx has carried out several diamond drilling programs for deposit definition drilling and exploration on the property in general, as follows:

1993

- 960 m drilled in eight holes (93 A to H) within the deposit area to sample the two main mineralization types (foliated granodiorite and quartz-feldspathic gneiss) for metallurgical test work
- Six of the holes were located to intersect the lower zone mineralization immediately below the main zone and one was designed to test deeper mineralization indicated in the 1970's drilling
- The core was used for metallurgical testing and some of it was not split and assayed
- Four of the holes were logged for magnetic susceptibility

1994

- 2,185 m drilled in 19 exploration holes to test mineralization south of the main deposit
- This drilling outlined a mineralized horizon roughly 6 m thick grading 2 3% Cu
- One hole (94-17) filled in a large gap in the deposit area

1995

- 572 m drilled in 6 holes: 425 m drilled in five exploration holes to test geophysical anomalies and 160 m completed in one condemnation hole north of the proposed mill site
- The exploration holes failed to intersect any anomalous mineralization

1996

• 545 m completed in four condemnation holes in the area of the proposed west waste rock dump

2001

• 552 m drilled in five confirmation holes within the proposed open pit area

All the drilling on the project was contracted to E. Caron Diamond Drilling of Whitehorse.

The 1993, 1994, 1995 and 2001 programs utilized HQ core and the 1996 drilling was NQ core. This historical drilling was completed in the 1990s, prior to the legislation for NI 43-101. There was less regulatory scrutiny and results were the focus of reporting, rather than details of data collection. There is little in the way of documentation for the methods used in the pre-1990s drilling and sampling.

The 2001 drilling was subject to a rigorous report by both MintoEx (Minto Explorations Ltd., 2003) and ASARCO (Simpson, 2001), which loaned a geologist to the project to log and sample the core. The results of the 2001 drilling are discussed in the Data Verification section of this report. Some of the core from the 1993, 1996 and 2001 drilling programs is stored in the Ken Bostock Core Library in Whitehorse. Some of the other core from the exploration on the property (away from the deposit)

# 6.5 Historic Resource Estimates

The Minto deposit has been subject to several historical tonnage and grade estimations, as summarized in Table 6.3. These resource estimates were based on up to 160 drill holes (totaling more than 25,000 m of drilling).

Year	Source	Cut-off %Cu	Short Tons	Cu %	Au oz/t	Ag oz/t	Comments
1976	R.T.Heard UKHM	Unknown	8,219.370	2.04	-	-	-
1976	L.A. Wigglesworth Falconbridge	Unknown	8,210,219	2.03	-	-	-
1975	R.J. Prevedi ASARCO	0.6%	8,441,941	1.74	-	-	
1976	R.J. Prevedi ASARCO	Unknown	7,220,900	1.86	-	-	
1980	D.M. Fletcher ASARCO	2.0%	2,968,600	3.24	0.027	0.411	
1989	J.Proc & H.L.Klingmann Minto Explorations	0.8%	6,368,000	2.11	0.016	0.33	Open Pit and Underground recovery at 75% and 5% dilution
1990	SRK/Falconbridge	Unknown	7,592,318	1.88	0.016	-	Cut-off grade 0.0%? Cu Includes Lower Zone
1992	J.Proc & H.L.Klingmann Minto Explorations	Unknown	6,071,000	2.21	0.018	0.28	Open Pit and Underground UG = 1,600,000 ton @ 3.73% Cu, 0.038 oz/t Au 0.49 oz/t Ag
1994	G. Giroux Montgomery Consultants	0.5%	8,780,000	1.76	0.015	0.223	Pre 43-101 "proven" + "probable"

## Table 6.3: Historical Tonnage & Grade Estimates of the Minto Deposit

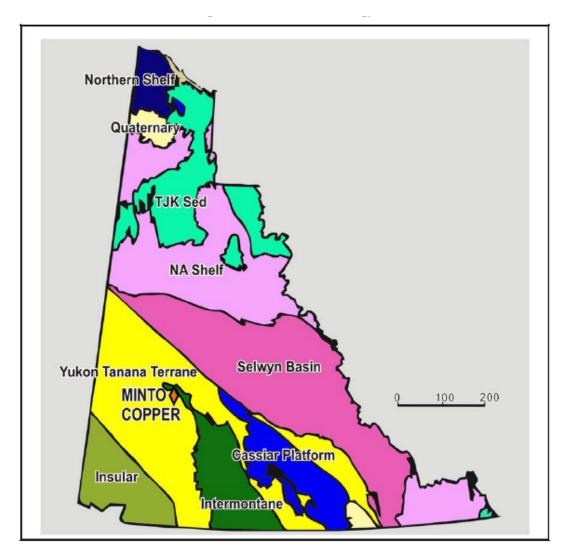
The estimates in Table 6.3 do not follow the required disclosure for reserves and resources (as outlined in National Instrument 43-101) because they were prepared prior to the inception NI 43-101. The resource estimates have been obtained by sources believed reliable and are relevant but cannot be verified. No effort has been made to refute or confirm these estimates and they can only be described as historical estimates.

# 7 Geological Setting

## 7.1 Regional Geology

The following section was taken from Section 9 in the "Technical Report (43-101) for the Minto Project" by Hatch (August 2006) found on the sedar.com website. For the purposes of this report, the original tables and figures numbers have been adapted to this report.

The Minto Project is found in the eastern margin of the Yukon-Tanana Composite Terrain, which is comprised of several metamorphic assemblages and batholiths (Figure 7.1). It is broadly contemporaneous with the Omineca Belt in nearby British Columbia.



From: Yukon Geologic Survey "Maps Yukon" website (www.geology.gov.yk.ca)

## Figure 7.1: Yukon Geology

The Minto Property and surrounding area are underlain by plutonic rocks of the Granite Mountain Batholith (Early Mesozoic Age) (7.2). They vary in composition from quartz diorite and granodiorite to quartz monzonite. The batholith is unconformably overlain by clastic sedimentary rocks of the Tantalus Formation and andesitic to basaltic volcanic rocks of the Carmacks Group, both are assigned a Late Cretaceous age. Immediately flanking the Granite Mountain Batholith, to the east, is a package of undated mafic volcanic rocks, outcropping on the shores of the Yukon River. The structural relationship between the batholith and the undated mafic volcanics is poorly understood because the contact zone is not exposed.

Geobarometry and geothermometry data (Tafti and Mortensen, 2004) suggests the Granite Mountain Batholith was emplaced at a depth of at least 9 km, while the presence of euhedral to subhedral epidote, interpreted by Tafti and Mortensen as magmatic in origin, suggests a deeper emplacement depth in the order of 18-20 km.

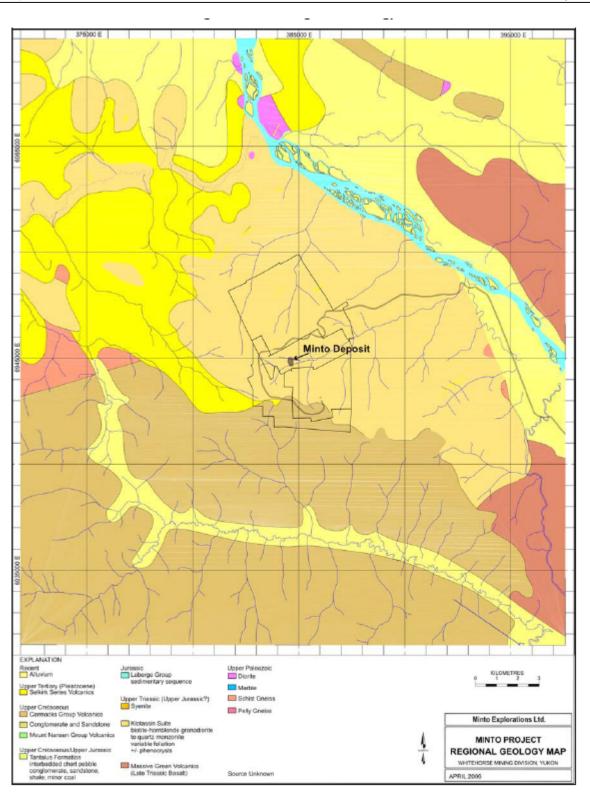


Figure 7.2: Regional Geology

# 7.2 Property Geology and Lithological Description

Outcrop exposure on the property is poor. Where exposure is available, it has been affected by deep weathering and variable oxidation, as the terrain was not glaciated during the last ice age event. Due to the very poor outcrop exposure and the buried nature of the Minto deposit, much of the property geology is based on observations from diamond drill core and extrapolation from regional observations.

Lithologically the Property is underlain by predominantly igneous rocks of granodiorite composition. In the few available outcrops and in drill core two basic units are distinguished, an equigranular phase and a potassic feldspar megacrystic phase. The equigranular phase is relatively leucocratic, grey to whitish in color and uniform in texture. The potassic-feldspar megacrystic phase can be slightly darker, may contain more biotite and hornblende and may be light pink in color. In surface exposures, the latter exhibits a very weak alignment of the feldspar megacrysts, defining an interpreted magmatic foliation.

Other rock types, albeit volumetrically insignificant include dykes of simple quartz-feldspar pegmatite, aplite; and an aphanitic textured intermediate composition rock. Bodies of all of these units are relatively thin and rarely exceed one metre core intersections. These dykes are relatively late, generally postdating the peak ductile deformation event, however some pegmatite and aplite bodies observed in a rock cut located north of the mill complex are openly folded. Conglomerate and volcanic flows have been logged in drill core by past operators but have not been confirmed by the authors as the drill core from previous campaigns was largely destroyed in forest fires and no new drilling has intersected such rocks.

As the copper sulphide mineralization at Minto is hosted in foliated granodiorite all core logging by past and by the present operators separates the foliated granodiorite as a distinctly discernable unit. It is the authors' opinion that this foliated granodiorite is just variably strained equivalents of the two primary granodiorite textures and not a separate lithology. Tafti & Mortensen (2004) noted that the relatively massive plutonic rocks have similar mineral and chemical composition as the foliated rocks.

The nature of the contact between the two massive phases of granodiorite appears gradational but occasional chilled contacts have been observed. In contrast, the contact relationship between the deformation zones and the massive phases of granodiorite is generally very sharp. These contacts do not exhibit chilled margins and are considered by the authors to be structural in nature, separating the variably strained equivalents of the same rock type. Tafti and Mortensen (2004) had interpreted the sharp contacts to be pendants of deformed rock within the unfoliated rock.

## 7.3 Structure

As noted above copper-sulphide mineralization at Minto is strongly associated with foliated granodiorite. This foliation is defined by the alignment of biotite in areas of weak to moderate strain

and by the segregation of quartz and feldspar into bands in areas of higher strain, giving the rock a gneissic texture in very strongly deformed areas. The deformation zone forms sub-horizontal horizons within the more massive plutonic rocks of the region and can be traced laterally for more than 1000 metres in the drill core. They are often stacked in parallel to sub-parallel sequences. The regular, sub-horizontal nature of the deformation zones allows a high degree of predictability when planning diamond drilling campaigns.

Contrary to some previous reports (Orequest, 2005), the foliated zones do not appear to inter-finger with the more massive rocks. Rather, it appears that blocks of unfoliated granodiorite are sometimes incorporated within the thicker deformation zones and anastomose around them.

Internally, the foliation exhibits highly variable orientations within individual deformation zones. Small scale folds are observed internally, however the deformation zones or enveloping surfaces themselves do not appear to be folded at an easily discernable scale. It is fair to say that no systematic fold geometry has been identified but it does not seem to affect the overall sub-horizontal attitude of the mineralized envelope. Without orientated core measurements and because the deposit is blind to surface further speculation about fold geometries is futile.

The similarity of chemistry and texture of both the deformed and the massive granodiorites suggest the deformation zones are structural in origin and not stratigraphic. Several of these foliated units can be traced in drill holes over long distances at similar elevations. While this could suggest either a structural or a stratigraphic origin for the foliated rocks it was noted that obvious plutonic textures were found in both the deformed and the massive rocks. However the absence of chill margins or absorption rims, at contacts combined with the great depth of emplacement (Tafti and Mortensen, 2004) likely preclude them from being remnant rafts or roof pendants of metasedimentary or metavolcanic strata, as some workers have postulated. It is the authors' opinion that these foliated and mineralized rocks do not exhibit any sedimentary or volcanic features. A structural origin remains the best explanation.

The deformation zones appear to be healed structures within the Granite Mountain Batholith and not units of different lithologies. It is postulated that they represent healed, shallowly dipping faults, and may have formed when the rocks passed through the brittle/ductile transformation zone in the earth's crust in transition from a deep emplacement environment to eventual exhumation of the batholith. They may represent thrust faults related to regional crustal thickening of the Yukon-Tanana Terrane when the batholith was being exhumed.

Late brittle fracturing and faulting is noted throughout the property area and is associated with a conjugate set of regional faults. Within the deposit at least one of these faults, the DEF fault, is significant from an economic standpoint. The DEF Fault strikes more or less east-west and dips north-northwest and cuts off the main zone mineralization at its northern end, as shown in Figure 7.3. The presence of several other faults is suspected, but the vertical orientation of most of the drilling is less than optimal to intersect steep to vertical faults.

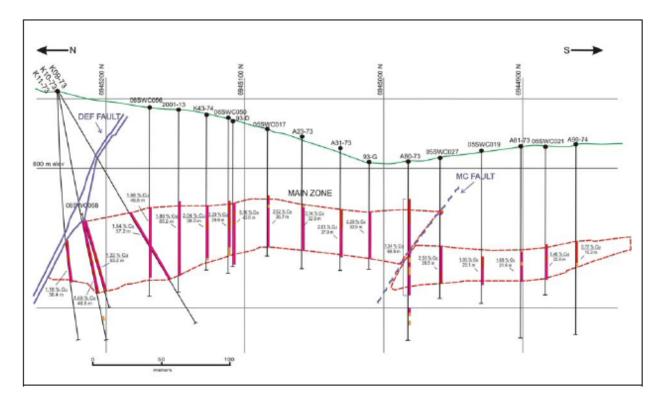


Figure 7.3: North- South Cross Section through Minto Deposit showing DEF Fault and MC Fault

The Minto Creek fault (MC Fault) bisects the main deposit, dividing it into north and south areas and is modeled as dipping steeply north-northeast with an apparent left lateral reverse displacement. The northern block moved up and to the west relative to the southern block. Both the vertical and horizontal displacements are evident by offsets in the main zone mineralization and appear to be minimal. A lack of marker horizons in the plutonic rocks, however, makes it difficult to determine the absolute magnitude of the movement (Figure 7.3).

The DEF fault defines the northern end of the deposit. Although it may share a similar sense of movement, a significant amount of displacement is inferred. Determining the magnitude of this displacement could lead to locating an extension of the main zone mineralization on the north side of the DEF fault. This late block faulting is noted throughout the Granite Mountain Batholith and in some instances a rotational component is noted as well. Tafti & Mortensen (2004) found the Cretaceous Age Tantalus Formation rotated up to 60<sub>0</sub> from horizontal in areas located south of the Minto deposit. A zone of pervasive fracturing on the west side of the deposit limits ore grades in this direction. Limited historical drilling west of this structure did intersect some weak copper mineralization, foliated horizons do not line up across this fracture zone. It is presumed to be one of the north-south faults that are part of the late brittle conjugate set.

While the limits to mineralization on the north and west side are structural in nature, the southern limit is an erosion channel cutting below the elevation of the mineralization and thereby removing it. This zone of deeper erosion is a paleo-channel that is interpreted to follow another roughly east-west striking fault. Only on the east side does mineralization appear to peter out and have no obvious structural limit.

All mineralized horizons exhibit locally pervasive fracturing (typically chloritic) and therefore interpreted to postdate the main copper-sulphide mineralization event. This late structural/hydrothermal event may have potential economic significance, as coarse-grained visible gold has been logged on these fractures.

# 7.4 Veining

Veins in the Minto Deposit appear to have been emplaced after the copper sulphide mineralization and are therefore not economically significant. The most common veins are very narrow (less than 30 cm) steeply dipping, simple quartz-feldspar pegmatite veins that often contain cavities that are indicative of shallow emplacement. The veins crosscut foliation in the deformation zones and the sulphide mineralization, evidence of their post sulpide mineral emplacement. Other types of late veins found in the deposit include thin (less than 2 mm) calcite stingers and fracture coatings and very rare narrow quartz veins.

# 8 Deposit Types

This section was taken from Section 10 in "Technical Report (43-101) for the Minto Project" by Hatch (August 2006) found on the sedar.com website.

At various times since its discovery the Minto deposit has been described as an example of Porphyry Copper, Volcanogenic Massive Sulfide (VMS), Redbed Copper, Magnetite Skarn (see discussion by Pearson and Clark, 1979) and Iron Oxide Copper Gold "IOCG" (Minto Explorations Ltd., 2003). Based on the preceding paragraph it is reasonable to say that the origin of the Minto deposit is enigmatic. Various workers (including the current authors) appear to have ascribed different interpretations for the most part based on their empirical observations, the background of the observer and the popular models of the day. The abundance of the high Cu/S mineral bornite in a moderately oxidized magmatic system along with the obvious magnetite association suggests that Minto belongs to one of three recognized deposit types; Alkalic Porphyry Copper; Magnetite Skarn or Iron Oxide Copper Gold. The lack of a typical calc-silicate skarn mineral assemblage seems to preclude this deposit type.

The host rocks to the Minto deposit were emplaced in a deep batholitic setting (exceeding 9 km deep to perhaps as much as 18-20 km deep), which is not considered to be the typical porphyry environment. The host is a moderately oxidized magma (Tafti and Mortensen, 2004) with widespread iron oxide (magnetite and hematite) mineralization. There are very strong structural controls on ore mineral emplacement and there is no apparent genetic link to a specific phase of intrusion. Typical porphyry-type alteration zoning such as widespread propilitization, argillization; barren silicic core, stockwork style mineralization or large barren pyritic halo is not recognized.

Some examples of IOCG mineralization with similar characteristics and setting to Minto include Copperstone in Arizona, Caldelaria in Chile and Ernest Henry in Australia (Williams et al., 2005). From a genetic and structural prospective, albeit not size wise, the Sossego Deposit in Brazil may be a reasonable analog. While an IOCG origin for the Minto Deposit cannot be unequivocally demonstrated, the authors are of the opinion that this style of deposit provides the most consistent model for our current level of understanding.

# 9 Mineralization

This section was taken from Section 11 from the "Technical Report (43-101) for the Minto Project" by Hatch (August 2006) found on the sedar.com website. . For the purposes of this report, the original tables and figures numbers have been adapted to this report.

# 9.1 Mineralization

The Minto Deposit has no surface exposure and the following discussion on the mineralization is based on observations made from drill core. The primary sulphide minerals include: chalcopyrite, bornite, minor pyrite and rare chalcocite. Silver telluride (hessite) is observed in polished samples but has not been logged macroscopically. Native gold and electrum have both been reported as inclusions within bornite and accounts for the high gold recoveries in test concentrates. Occasionally, coarse free gold is observed associated with the chloritic fractures that cross-cut the sulphide mineralization. The free gold may be due to secondary enrichment during a later hydrothermal process overprinting the main copper sulphide-gold event.

The deposit exhibits crude zoning from west to east. The bornite zone is dominant in the west and a thicker, lower grade chalcopyrite zone is dominant on the east side of the deposit. The bornite zone is defined by the metallic mineral assemblage magnetite-chalcopyrite-bornite. Bornite mineralization is conspicuous, but chalcopyrite is the dominant sulphide species. Stringers and massive lenses of chalcopyrite with various quantities of bornite are typical. Massive mineralization occurs locally over intervals exceeding 0.5 m in thickness and semi-massive mineralization over several metres in thickness may occur. In these sulphide rich areas, textures often resemble those seen in magmatic sulphide zones with sulphide mineralization interstitial to the rock forming silicate minerals.

The higher grade portion of the Minto Deposit roughly corresponds to the bornite zone; local concentrations of bornite up to 8% are seen. The precious metal grades are elevated in the bornite zone (very fine gold and electrum occur as inclusions in bornite). The chalcopyrite zone is characterized by the metallic mineral assemblage chalcopyrite-pyrite +/- very minor bornite. Magnetite is absent.

Empirical observations indicate the highest concentrations of bornite are associated with coarse grained, disseminated and stringer-style magnetite mineralization, up to 20% by volume locally. The stringers of magnetite are often folded or boudinaged, suggesting that at least some of the magnetite mineralization predates peak ductile deformation. Sulphide mineralization on the other hand, shows both evidence and absence of ductile deformation locally and is interpreted to have formed contemporaneous with, to late in the ductile deformation history. Texturally, the sulphide minerals occur as disseminations and foliform stringers along foliation planes in the deformed granodiorite (i.e. sulphide stringers tend to follow the foliation planes). Sulphide mineral content, however, tends to increase where this foliation is disrupted by intense folding, while the thicker, more massive mineralization tends to obliterate the foliation altogether.

# 9.2 Alteration, Weathering and Oxidation

Pervasive, strong potassic alteration occurs within the flat lying zones of mineralization. It is characterized by elevated biotite contents relative to the massive waste rock and secondary k-feldspar overgrowth on plagioclase. Biotite concentrations range up to 30% by volume locally, compared to about 5% in waste rock. The contacts between the altered and unaltered rocks are sharp, as are the contacts between mineralized rocks and waste rocks.

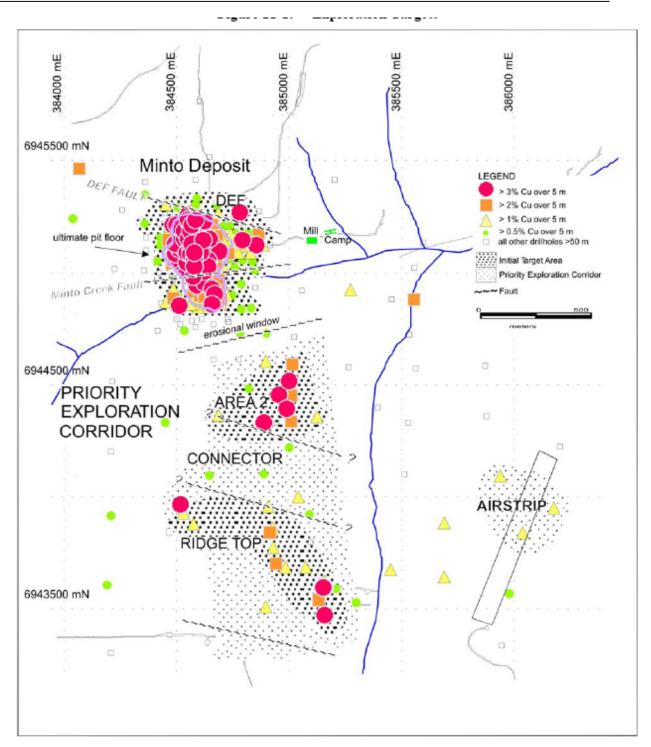
Silicification is present but not pervasive in the Minto Deposit. It is sporadic within the bornite zone (west) and lacking in the chalcopyrite zone (east). The relationship between silicification and the mineralization is unclear, due to inconsistent core logging over three decades. Sericite occurs rarely and is associated with post-mineral brittle faults or as thin halos around some of the post-mineral pegmatite veins.

Copper oxide mineralization found on surface in float and trenches, is the result of supergene oxidation processes. This surface mineralization represents either the erosion remnants of foliated horizons that are located above the main deposit or is vertical remobilization of copper up late brittle faults and fracture zones that intersect primary sulphide mineralization at depth. Malachite is the prime mineral in these zones, with secondary chalcocite, minor azurite and rare native copper. The mineralization is found as fill and coatings in fractures. The vertical mobilization of copper oxide mineralization along late fractures offers an excellent exploration vector to otherwise blind deposits.

In addition to the obvious copper oxide minerals, oxidation is also evident by pervasive iron staining, earthy hematite, clay alteration of feldspars and a significant loss in bulk density. The degree and distribution of copper oxide minerals appears to be directly related to the depth of the water table. For the most part this is confined to about -30 metres but up to -60 metres beneath the surface and is generally sub parallel with the present topographic surface. The main zone has experienced relatively little oxidation since it is generally more than 60m below the surface except at its southern end where it crops out directly beneath unconsolidated overburden in th Minto Creek Valley. Very locally this oxidation may be drawn deeper along late brittle faults cutting primary sulfide mineralization.

## 9.3 Additional Mineralization Targets

The most favourable exploration targets (based on the evaluation of geophysics, soil geochemistry and diamond drilling completed by past operators) are summarized below. Targets are identified as Ridge Top, Area 2, Airstrip, Connector and DEF are all located within a 2 km by 2 km area, south of the DEF fault. MintoEx also sees good exploration potential in the area north of the DEF fault, as evidenced by at least two copper showings on surface and multiple coincident soil and magnetic anomalies in the area. However further understanding of the geology in this area is required before drill targets can be identified and a field assessment of the two copper showings is imperative since the historical reports do not appear to agree on the orientation of the mineralized structure. Various exploration targets are identified in Figure 9.1.



3-D inversion modeling of magnetic and I.P. data by geophysics at the University of British Columbia on proprietary software developed by the university also shows promising targets at depth to the northwest, north and east of the main deposit.

## Figure 9.1: Exploration Targets (Circa 2006)

## 9.3.1 Ridge Top

This high priority target is one of the best targets currently defined on the Minto Property. The eastern half of this target was formerly called Area 3 by past operators. A reinterpretation of the airborne magnetic data (flown post-drilling) and historical drill logs suggests that the extent and orientation of the target mineralized horizon is much larger than previously suggested. Reinterpretation of the 1993 airborne magnetic data indicates that the Ridge Top target is at least 1100 m long and 250 m wide. Further processing of this data, including a 3-D inversion modeling exercise, is recommended. Follow-up detailed ground-based geophysics is also warranted to better define the target. Historical drilling in this area was widely spaced and shallow, but still intersected two distinct horizons of interest and included several ore grade intercepts. Highlights of this past drilling are presented in Table 9.1 below. Previous operators preferred a north-south vector when drilling and not the more favorable east west trend associated with the magnetic high anomalies (Figure 9.2).

DDH ID	FROM (m)	TO (m)	INT (m)*	Cu%	Au g/t
A5-73	119.79	135.48	15.70	3.16	1.66
94-06	137.77	144.02	6.25	3.01	0.87
94-06	55.84	60.56	4.72	1.13	0.24
A116-74	18.29	27.43	9.14	1.59	0.63
A116-74	98.45	110.64	12.19	1.21	0.74
A2-73	1.83	42.52	40.08	0.90	0.00
A9-73	7.92	48.46	40.54	0.67	0.00

Table 9.1: Some Weighed Average Assay Interval Highlights from Ridge TopHistorical Drilling

\*Geological modeling shows that the best continuity between drill holes indicates horizontal to subhorizontal mineralized horizons. Therefore the intervals indicated in Table 9.1 are to be near true widths.

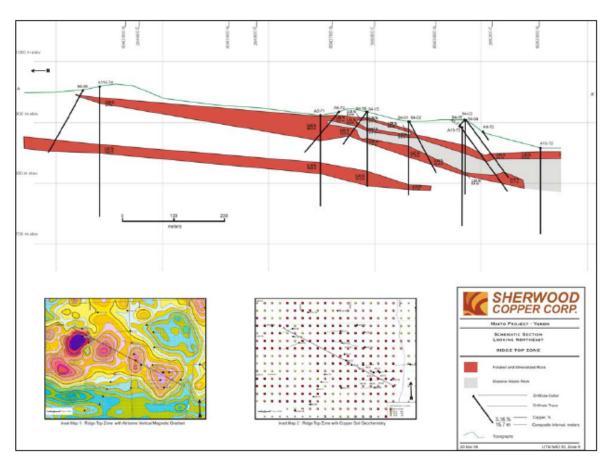


Figure 9.2: Ridge Top Exploration

## 9.3.2 Area 2

Another priority exploration target, Area 2, is located southeast of the Minto Deposit and starts approximately 300 m from the proposed ultimate limit of the planned Minto Mine pit floor (Figure 9.3). Area 2 corresponds to an airborne magnetic anomaly of similar amplitude as characterizes the Minto Deposit. The two magnetic anomalies corresponding to the main zone and Area 2 are separated by a paleo-erosion channel. In one possible interpretation, the channel follows a late brittle fault with left lateral displacement, which would make Area 2 mineralization an extension of the main deposit displaced 400 m eastward. Most of the intervening magnetite associated mineralization, if it were ever present, would now be eroded off in this paleo-channel. Five historical diamond drill holes completed in Area 2 intercepted good grade copper mineralization at a similar elevation as the Minto main zone (Table 9.2). The mineralization remains open to the east, west and south on multiple levels but has eroded away in the north, in the paleo-channel.

Based on previous drilling, soil sampling and airborne magnetics Area 2 covers an aerial extent of approximately 200m by 200m and is a target with potential on par to the main Minto orebody. Drilling to date, on the upper two horizons at Area 2, have intersected copper-gold mineralization of a similar tenor and located at similar vertical depths below surface as the Minto Deposit. Given the similar characteristics to the main Minto orebody and its close proximity to the proposed open pit

mine and mill infrastructure, mining characteristics similar to the Minto Deposit are anticipated. Because of the ease of access via existing mine and exploration roads it is relatively easy to drill off to resource standards.

DDH ID	FROM (m)	TO (m)	INT (m)*	Cu%	Au g/t
A76-73	91.44	102.11	10.7	1.17	na
A77-73	102.41	111.56	9.1	1.74	0.48
A91-74	118.87	122.53	3.66	1.43	0.36
A138-74	51.82	73.15	21.3	1.16	0.28
A6-71	19.66	25.99	6.3	2.87	0.46

# Table 9.2: Some Weighed Average Assay Interval Highlights from Area 2 HistoricalDrilling

\*Geological modeling shows that the best continuity between drill holes indicates horizontal to subhorizontal mineralized horizons. Therefore the intervals indicated in Table 9.2 are to be near true widths.

During the first quarter of 2006, MintoEx completed three diamond drill holes at Area 2, to a depth of approximately 350 m. The results were very encouraging with significant copper-gold values over vertical extents greater than 220 m including higher grades, similar to the main deposit mineralization in multiple, stacked sub-intervals. Significant assay results from holes 06SWC-068, 06SWC-071 and 06SWC-074 are included in Table 9.3, Table 9.4 and Table 9.5 respectively.

Table 9.3: Some Weighed Average Assay Interval Highlights from 06SWC-068-
Zone 2-2006 Drilling

Interval	FROM (m)	TO (m)	INT (m)*	Cu%	Au g/t
06SWC-68	82.5	302.8	220.3*	0.65	0.31
Interval 1	82.47	97.87	15.4	2.73	2.13
Including	82.47	90.00	7.5	3.85	2.64
Interval 2	133.10	149.50	16.40	1.37	0.46
Interval 3	194.50	216.50	22.0	1.78	0.70
Including	197.50	205.00	7.50	3.68	1.35
Interval 4	262.00	273.71	11.71	0.70	0.36
Interval 5	290.80	301.00	10.20	1.97	0.74

\*Geological modeling shows that the best continuity between drill holes indicates horizontal to subhorizontal mineralized horizons. Therefore the intervals indicated in Table 9.3 are to be near true widths.

Interval	FROM (m)	TO (m)	INT (m)*	Cu%	Au g/t
06SWC-74	25.0	260.3	235.3*	0.37	0.11
Including	25.0	67.1	42.1	0.41	0.02
And	84.7	92.8	8.1	0.34	0.1
And	118.1	142.0	23.9	1.92	0.86
And	142.0	225.8	83.8	0.17	0.02
And	245.0	260.3	15.3	0.51	0.18

# Table 9.4: Some Weighed Average Assay Interval Highlights from 06SWC-074 Zone 2-2006 Drilling

\*Geological modeling shows that the best continuity between drill holes indicates horizontal to subhorizontal mineralized horizons. Therefore the intervals indicated in Table 9.4 are to be near true widths.

While the mineralization in the higher-grade zones at Area 2 is similar in character, thickness and grades to the main deposit, the appreciable thickness of lower grade mineralization between these intercepts suggests a much larger mineralized system than predicted by the predominantly shallow historical drilling on the target. These initial exploration results are very encouraging and warrant immediate follow-up. MintoEx has been conducting resource definition drilling on Area 2 for the past three months, with encouraging results, and it hopes to be in a position to estimate a resource for Area 2 by the end of 2006.

## 9.3.3 Airstrip

Formerly identified as Area 3 by the previous operators, this prospect is identified in three diamond drill holes located on the flanks of a magnetic anomaly located near the old Minto Project airstrip. None of the drill holes adequately tested the magnetic anomaly, which should be a more favorable target based on the magnetite-copper-gold association recognized at the main deposit and at Area 2. Drilling was completed in 1974, nearly 20 years prior to the airborne magnetic survey. Using this exploration model of magnetite-bornite association suggests the best targets remain to be tested.

United Keno Hill geologist Norm Burmeister (pers. comm., 2006) indicated a greater than one tonne boulder of massive sulphide mineralization, comprised mostly of bornite with lesser amounts of chalcopyrite and magnetite, was exposed by a bulldozer on the northeast end of the airstrip while it was being cleared (Figure 9.3). The presence of bornite-rich boulders at surface is a strong indication of insitu bornite-rich rock nearby. The Airstrip target is located in unglaciated terrain, therefore transport of the boulder is expected to be minimal and certainly not up slope of other mineralized anomalies.

Significant assay results for the Airstrip are presented in Table 9.5.

DDH ID	FROM (m)	TO (m)	INT (m)*	Cu%	Au g/t
A105-74	59.14	68.28	9.14	1.00	0.09
A107-74	80.16	91.74	11.58	1.09	0.03
A109-74	12.80	42.37	29.57	0.47	0.00

\*Geological modeling shows that the best continuity between drill holes indicates horizontal to subhorizontal mineralized horizons. Therefore the intervals indicated in Table 9.5 are to be near true widths.



### Figure 9.3: Slab of Near Massive Bornite Mineralization taken from Airstrip Boulder

### 9.3.4 Connector

The previous operators considered the northern part of the Connector area to be a continuation of the Area 2 target. It is now considered to be a separate target, until such time as continuity with Area 2 can be demonstrated with core drilling. It is being treated as a separate target at a much deeper level than the near surface mineralization at Area 2, 200+m below surface vs. 100-120 m below surface in Area 2. The Connector target is identified in four historical holes tracing the unit over 550 m in an east-west direction. A fifth hole (A16-72) failed to intersect the target, as it was not drilled deep

enough. Connector may be a down-faulted block of mineralization originally related to the Area 2 upper horizons. Despite the greater depth, the reported gold and copper grades make this an attractive drill target. Close proximity to Area 2 also provides development options that may mitigate its depth if sufficient tonnage could be outlined in both areas.

DDH ID	FROM (m)	TO (m)	INT (m)*	Cu%	Au g/t		
A16-7	Not applicable – hole too shallow						
A108-74	199.95	215.19	15.24	1.71	0.71		
A136-74	255.12	264.26	9.14	0.76	0.33		
A137-74	227.99	235.61	7.62	5.29	2.61		
A139-74	175.87	186.54	10.67	1.66	0.65		

## Table 9.6: Somme Assay Interval Highlights from Connector Historical Drilling

\*Geological modeling shows that the best continuity between drill holes indicates horizontal to subhorizontal mineralized horizons. Therefore the intervals indicated in Table 9.6 are to be near true widths.

## 9.3.5 DEF

This target, which lies along the DEF fault, is currently poorly understood due to the lack of angled drill holes in the area. MintoEx favours this area as a drill target as it appears to be an extension of the main zone between two splays of the DEF fault zone. The northernmost fault appears to be a splay of the southern or main fault zone with the gap between the two widening up toward surface. While the extents of the target appear to be limited in the immediate area because of the fault geometry, sufficient room exists to warrant follow-up.

The target is open along strike; any information gleaned from this area could help resolve both the magnitude and orientation of displacement along DEF fault and vector toward any fault displaced portion of the main deposit further to the north.

Significant assay results for the Connector are presented in Table 9.7.

Table 9.7: Somme Assay Interval Highlights from DEF Area Drilling

DDH ID	FROM (m)	TO (m)	INT (m)*	Cu%	Au g/t
05SWC-049	93.75	99.12	5.37	3.59	2.56
K01-73	118.57	129.54	10.97	1.74	0.18

\* *There is insufficient information to model this mineralization therefore the intervals in Table 9.7 are intersected widths, actual true widths are unknown.* 

# **10 Exploration**

Mineral exploration on the Minto property has been conducted intermittently since 1971. Subsequent to the discovery of the Main deposit, now the producing open pit Minto mine, the adjacent southern half of the property has undergone systematic should be considered brownfields exploration. There are currently more than 500 hundred diamond drillholes within a roughly 2 square kilometre area. As such, following up on open mineralized horizons in geological models, projecting mineralized horizons into areas of little or no drilling and drilling near historical drill hole intercepts are the principal exploration tools employed by MintoEx and its geologists. Subsequent to Sherwood Copper's acquisition of Minto Explorations Ltd. in June 2005, exploration from 2005 to 2008 has concentrated mostly on diamond drilling however, an extensive historic soil sample survey and some ground based geophysics have been conducted and are sometimes useful to guide drilling activity. The predominant geophysical methods used are Gradient Array Induced Potential (GAIP) and total field magnetics (MAG) on cut grid lines. Local test surveys of Bouger gravity and HLEM over known mineralization proved to be of little use and were not conducted over significant areas.

In a cycle of discovery and definition, new deposits have now been identified by diamond drilling three separate areas, outside of the original or Main Minto deposit that was known when the project was acquired in 2005; the new deposits include Area 2 discovered in 2006, Area 118 discovered in 2007 and Ridgetop drilled for the first time by MintoEx in 2007. The focus of exploration since 2006 involves systematic exploration of the property area south of the current open pit mine in a south-southeast striking trend MintoEx calls the Priority Exploration Corridor (PEC). A brief chronological summary of work conducted on the property is contained in the history section of this report and is described in the "Technical Report (43-101) for the Minto Project" by Hatch (August 2006) and "Area 2 Pre-feasibility Study Minto Mine, Yukon" (November 2007) found on the <u>sedar.com</u> website.

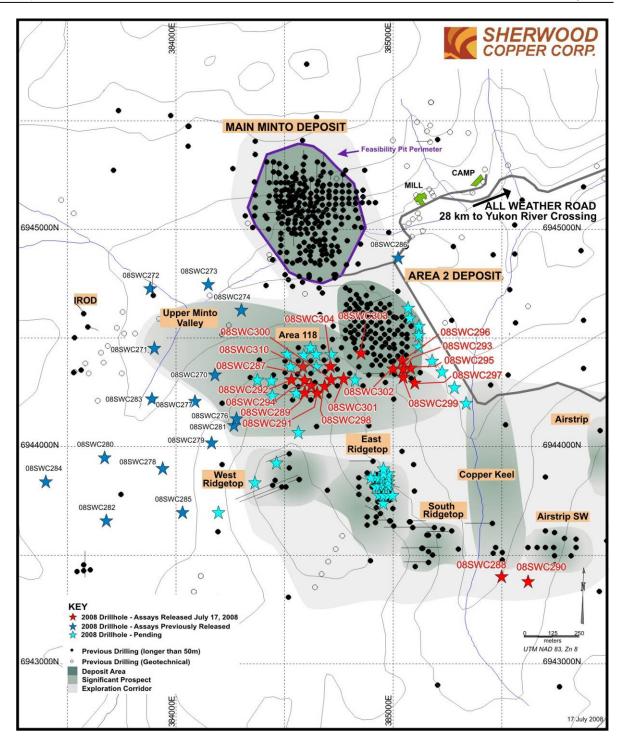


Figure 10.1: Priority Exploration Corridor (PEC) with Drill Collars Current to July 17<sup>th</sup>

While exploration since 2005 has benefited from geophysical surveying, principally GAIP and MAG, the main exploration tool used by MintoEx is following up on 3D geological models and interpretations constructed largely in house or in conjunction with the Company's consultants. Follow-up drilling to pursue vectors identified in these models or open mineralization in sparsely spaced historical holes has been a successful strategy for resource expansion at Minto. Due to the highly visual nature of the mineralization, drilling can be guided by immediate visual estimates of

mineralization rather than waiting to obtain assay results. The company takes advantage of this to minimize time lags between drill programs, thereby reducing costs and aggressively pursuing opportunities for resource expansion. This has allowed MintoEx to run extended drill programs to advance new drill discoveries rapidly to NI43-101 resource standards. Since 2005 MintoEx has increased NI43-101 resources by 140% and reserves by 43%. The lower increase in reserves is due to the resource being updated to incorporate two year's worth of exploration drilling (2006-07), whereas the reserve has only been updated to incorporate one year's exploration results (2006).

Starting in 2005 MintoEx concentrated on compiling historical data acquired with the purchase of the property and on conducting confirmatory drilling on the main resource area, now the current open pit Minto mine. Upon acquiring the property, MintoEx initiated a data compilation and conversion exercise using MapInfo Professional 8.0 and Gems 5.5, followed up with two separate diamond drill programs. The drill programs were largely confirmatory and infill, within the resource limits, to test the geological model and to facilitate resource calculations. Some exploration drilling was also conducted on targets located south of and west of the deposit.

Considerable care was taken to level various sets of analog data to one single datum (UTM NAD83 Zone 8) to build a GIS project. The Gems database was converted from the old mine grid based system in imperial units to metric units based on the UTM NAD83 Zone 8 datum. In March 2006, a test program of combined ground-based total field magnetic and gravity surveying was conducted over and around the Minto Deposit before mining commences. The intent was to establish a geophysical signature to use as an analog model for future exploration on the property.

Subsequent to the deposit discovery at the Minto Main Deposit, ASARCO had discovered potentially interesting copper – gold mineralization approximately 500 m to the south of the Main deposit in 1974. While the premise for drilling at this location is not known, it appears from the distribution of the drill holes ASARCO was continuing a step out program started in 1973 to explore south of their Main discovery. Three East-West orientated drill fences with holes spaced roughly 118 m (400ft) apart on the sections were executed. Several shallow holes completed in 1973 intersected narrow intercepts of anomalous to low grade mineralization while the deeper holes (200-300m) located on the southernmost of the drill sections in 1974 intersected much higher copper – gold grades but more than 200m below surface. This was well below the Main deposit horizon.

These "deep" intersections are located on the south margin of what was subsequently defined as the current Area 2 resource, discovered by Sherwood in 2006. One can only assume that, because the shallow holes had sub-economic results, it was believed at the time that the potential for mineralization at similar elevations to the emerging Main deposit immediately to the north was adequately tested. However, one hole drilled a year later in 1974, A138-74, actually did intersect all of the potential ore zones subsequently defined by Sherwood; presumably the ASARCO geologists failed to recognize its significance in light of the poor results from the shallow drilling from 1973.

In the early 1990's, MintoEx certainly believed the potential for significant copper – gold mineralization on similar elevations to their proposed open pit mine had been adequately tested south

of the known deposit; they too had failed to recognize the significance of drill hole A138-74. Coupled with the misconception the area was thought to be too deeply oxidized to be of serious exploration interest for primary sulphide ore (Lutz Klingman Pers. Comm. 2006) and despite positive results from an airborne total field magnetic survey, the target remained untested for yet another decade until Sherwood acquired MintoEx and the project in 2005.

Sherwood geologists could find no clear evidence in the ASARCO drill logs to support the assumption of deep oxidation south of the Main deposit and reappraised the region in early 2006 after completing a NI43-101 compliant resource model for Main. This new resource model suggested the Main deposit should project southward across, the Minto Creek valley, into the area now known to host the Area 2 deposit. A subsequent examination of the historical drilling in the area also clearly showed the area was not adequately tested on the elevations of the Main deposit. Sherwood geologists hypothesized that the shallow ASARCO holes which intersected anomalous to low grade copper mineralization north of the deeper Area 2 mineralization, stopped just above the top of the Minto Main deposit horizon and that A138-74 had, in fact, tested and intersected the "Minto" ore horizon. The significance of this hole had escaped both the ASARCO and subsequent MintoEx geologists, presumably because of the poor results in the shallow drill holes A76-73 and A77-73, located about half way between A138-74 and the Main deposit, and because of the erroneous assumption of deep oxidation. Unbeknownst to both ASARCO in the 1970's and MintoEx in the 1990's, the shallow ASARCO drill holes A76-73 and A77-73 had stopped just above the main Area 2 resource horizons, so it remained undiscovered for more than three decades despite sitting less than 250 metres from the principal deposit discovered in the early 1970's. However, based upon the projection of the resource model and upon the presence of a significant total field magnetic high in the 1993 Sander Airborne magnetic survey, completed nearly two decades after the ASARCO drilling, Sherwood geologists considered the target area to have considerable exploration potential at shallow depths. The deeper potential was also apparent.

In February 2006, while finishing up a second phase of ore delineation drilling at Main, the hypothesis, postulating the 1973 ASARCO drilling had stopped above the top of the Minto deposit horizon projected southward, was tested. Drill hole 06SWC-068 was collared into the centre of a magnetic high anomaly, approximately 135 m south of the short ASARCO drill holes and approximately 60 m west of A138-74. The drill hole intersected multiple mineralized layers to a total depth of 395 m, including five intervals considered significant. This hole was immediately followed up with two others; 06SWC-71 and 06SWC -74, located to the northeast and north, respectively, of 06SWC-68. When both of these holes also intersected high grade copper mineralization, MintoEx realized a significant discovery of primary sulphide mineralization, proximal to the Main Deposit and at similar relative elevations and depths beneath surface. Follow-up drilling of 76 holes, for a total of 79, in 2006 delineated the mineral resource used in the November 30, 2007 PFS. Subsequent drilling in 2007 significantly expanded the Area 2 mineralization, as detailed in the new resource estimates contained herein.

In 2006, exploration begin in earnest after the discovery at Area 2 less that 0.5km south of the Minto mine orebody, by then the subject of a feasibility study. Area 2 was subsequently drilled to a

Page 57

standard sufficient to support a resource calculation for a PFS, which was completed in November 2007.

Spanning 2006-2007, a program of Gradient Array Induced Potential (GAIP) surveying and total field magnetic surveying was completed by Aurora Geosciences of Whitehorse, Yukon, over much of the property considered to have the highest exploration potential. The GAIP survey identified chargeability anomalies directly associated with known copper-gold deposits at several locations, confirming its usefulness. Several additional GAIP anomalies in previously undrilled to sparsely drilled areas were drill tested, and further discoveries were made, such as those at Airstrip SW and Copper Keel South. Likewise, discrete magnetic anomalies are associated with mineralization at Minto Main deposit, Area 2; Area 118 and Ridgetop East and West. Coincident GAIP and MAG anomalies are considered high priority drill targets. Most of these anomalies have now been tested in the southern half of the property, south of the DEF fault and are associated with significant new mineral resources. Several coincident chargeability/magnetic anomalies and some either just chargeability or just magnetic anomalies located north of the DEF remain to be tested. Significant areas of the property are overburden filled valleys with permafrost conditions and cannot be easily penetrated by GAIP surveying, presumably due to poor coupling with the frozen ground. The GAIP surveying method is discussed in more detail in section 10.1 below.

In 2007, exploration concentrated on Area 118, located west of and contiguous with Area 2, where Area 118 was identified as a possible extension of Area 2, based upon the resource model completed At the end of 2006. Several additional targets, located near the south claim boundary were chosen because preliminary geological modelling, using very wide spaced historical drill holes, suggested a large untested area held significant exploration potential and was associated with several broad GAIP anomalies. New high grade copper-gold discoveries were subsequently made by drilling in 2007 at Area 118, Airstrip and Copper Keel South. Also in 2007 Ridgetop (ASARCO's original Area 1) was drill tested on a wide spaced basis in support of a preliminary resource estimate. Magnetic and GAIP data were used to guide drilling for the preliminary model.

Drilling in 2007 was conducted in a two phase program, Phase I from February to April and Phase II from May to October. The objectives for the 2007 exploration program were partly to further define the limits of the Area 2 deposit, test for its extension into Area 118 and to provide technical information for the Area 2 pre-feasibility study. A significant second component of the 2007 program was to broadly test a wide swath of the Minto property south of the Area 2 deposit and to test a narrow corridor north of Area 2 between the Main and Area 2 deposits. These are all areas where various combinations of information from prior drilling, geophysics and MintoEx's geological interpretation suggested potential for the discovery of further high grade copper-gold mineralization.

2007 exploration drilling focused on nine separate exploration target areas. One hundred and one exploration and geotechnical drill holes were completed, 28 more than originally planned in the 2007 budget. Due to positive results, the drill program was expanded from the budgeted 16,500 metres to 23,618 metres by program's end, approximately a 40% increase over the planned metres. Significant new copper-gold mineralization was discovered at Gap, Copper Keel S. and Airstrip SW, while Area

118 was expanded from a localized historic drill hole occurrence to a fully fledged discovery of a new copper-gold deposit.

Subsequent geological and resource block modelling conducted in 2007 – 2008 showed that the Area 2 and Area 118 deposits are continuous through a zone of transition between the two deposit areas. Much of what was initially considered to be Area 118 during the exploration drilling period was subsequently reassigned in the model to Area 2. This distinction was made on the basis of geological continuity and similarity of copper-gold grades. The joint model was completed in 2008 and a new NI43-101 resource calculation was released for both deposits on June 17, 2008; discussed in detail in Section 17 of this report.

MintoEx geologists reassessed the Ridgetop area in 2007 (ASARCO's original Area 1 discovery area) and drilled twenty-five new diamond drill holes, following up on sixteen historical holes from the 1970's and early 1990's. The subsequent interpretation and drill density allowed for the completion of a NI 43-101 compliant resource estimate for Ridgetop East. No prior NI43-101 compliant resource estimate for Ridgetop had been calculated, despite it being the original discovery area at Minto. The NI43-101 resource calculation for Ridgetop is discussed in greater detail in Section 17 of this report.

Company geologists proposed, in 2006, that the separate prospects and deposits mentioned above comprise a single large continuous to contiguous mineralized system that has subsequently been deformed; openly folded and cut by late regional faults (some with vertical displacements and some with inferred lateral displacements). The sum of MintoEx's drilling and geological modelling to date since 2005 continues to support the single system thesis and ongoing exploration work in 2008 and beyond will focus on creating a unified geological model for the property south of the DEF fault.

Projecting 3D geological models, based on drill hole data into untested areas and then following up on promising targets, remains the most important exploration tool at Minto. Most exploration work in 2008 is concentrated on infill drilling followed by stepping out from the Area 118/Area 2 deposit and Ridgetop deposits. Infill drilling will yield a statistically more robust resource calculation, potentially supporting future PFS studies, while step-out drilling will test for further extensions of the deposits.

Early in 2008, a limited program of drilling in the overburden filled upper area of the Minto Creek valley identified several previously unknown areas of copper-gold mineralization now considered prospective. These discoveries are totally blind to surface, not discernable with GIAP surveys, have very muted magnetic high signatures and are essentially wildcat discoveries. Geological modelling at the western edge of the Priority Exploration Corridor ("PEC") at West Ridgetop and the western margins of Area 118, suggested the mineralized horizons may continue westward and dip beneath upper Minto Creek, expanding the PEC.

Drilling continues in 2008 with the aim of increasing the drill hole density at Area 118 and Ridgetop and to conduct step-out exploration in both areas where the 2007 drilling had not closed off the

deposits. The discovery of three new high grade copper-gold deposits in 2007 and several other significant drill prospects attests to the validity of the exploration methods being used at the Minto Mine by Sherwood Copper and its subsidiary MintoEx.

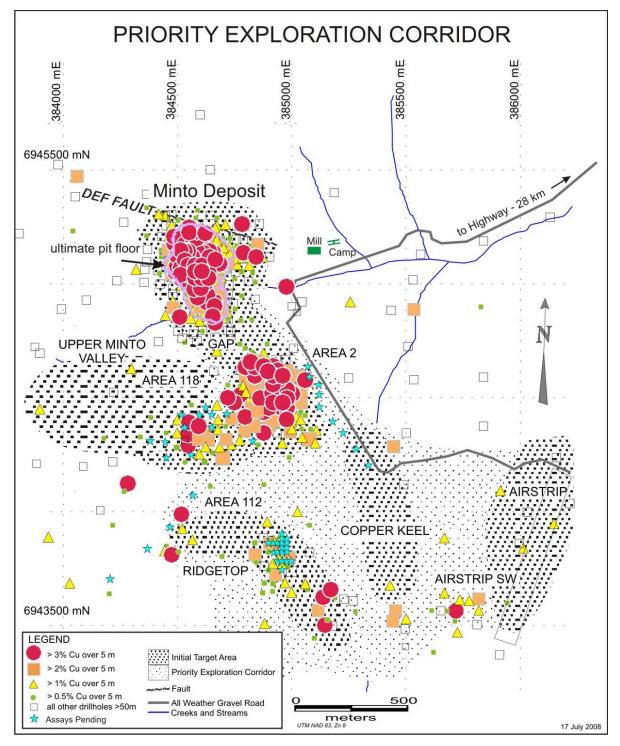


Figure 10.2: Priority Exploration Corridor (PEC) with Drill Results Showing the Highest Copper Grade Over a Minimum Continuous 5 m Interval

# 10.1 Gradient IP Geophysical Surveying

A second important component of the 2007 exploration program included increasing the coverage of the Gradient Array Induced Polarization ("GAIP") survey at Minto. A total of 138 line kilometres of GAIP surveys were completed in 2007, a four-fold increase over the 33 km completed in the 2006 program, bringing the total GAIP kilometres surveyed by Sherwood for both years to 171 km. The GAIP surveying for 2006 and 2007 was conducted by Aurora Geosciences of Whitehorse, NT using the following specifications:

- Array: Gradient
- Dipole Spacing: 50m
- Tx: Time domain, 50% duty cycle, reversing polarity, 0.125 Hz
- Stacks: Minimum 15
- Rx Error: 5mV/V or less, otherwise repeated several times
- Grid Registration: Handheld GPS points minimum every 300 m and at lineends; (<10 m accuracy)

The 2007 survey was completed on ten separate blocks expanding upon the 2006 survey area to provide near seamless coverage over a total area of approximately 10 km<sup>2</sup>. Areas with extensive mining activity or infrastructure could not be surveyed. The 2007 GAIP program was much more extensive than the 2006 pilot survey because drilling of the chargeability anomalies generated in the 2006 survey was positive. The GAIP survey showed a coincidence of significant copper sulphide mineralization with chargeability anomalies and suggested Sherwood had developed an additional exploration tool for prioritizing exploration drill targets.

The focus of the 2007 geophysical program was two-fold. Firstly, to evaluate areas south of the main Minto deposit, expanding coverage into areas of known prospectivity that was not covered in the 2006 program. Secondly, to begin evaluating areas north of the Minto mine, where there are multiple coincident copper-in-soil and magnetic anomalies, but very little core drilling. After positive drill results were obtained late in the drill program on a changeability anomaly, located at the Airstrip SW and Copper Keel prospects on the southern limit of the 2006 survey area, a decision was made to expand the GAIP survey to an area south of the drill discovery.

The additional survey at Airstrip-Copper Keel defined a large chargeability anomaly in an under-explored region located to the south of the diamond drilling. This area was previously thought to be not prospective due to the presence of Cretaceous Age cover rocks. These cover rocks are thought to represent a significant down throw and burial of the prospective host Jurassic Age granodiorite. The new drilling had indicated the cover sequence was shallower than expected and granodiorite is locally exposed beneath overburden in small erosion windows through the conglomerate. Recent drill discoveries of high-grade copper-gold mineralization at Airstrip and Copper Keel are on the northern edge of a much larger chargeability feature than shown by the 2006 GAIP survey, suggesting additional potential beyond the range of recent drilling. Because the survey data was not received in time to build the necessary road and pad infrastructure over this

permafrost region for drill testing in the current season, this large chargeability anomaly remains a high priority drill target for 2008.

Several other chargeability anomalies identified in the 2007 GAIP survey are located to the north of the main Minto Main open pit mine, indicating exploration potential north of the mine. This is an area where total field magnetic data and soil geochemistry indicate a prospective exploration environment but it has had only very cursory exploration drilling by past operators. Two anomalies identified in the 2007 program include a strong east-west linear chargeability feature located approximately 600 metres north of the Main pit and the very large horseshoe shaped anomaly to the northeast of the Main pit. The latter lies immediately north of the all weather project access road. Both targets are associated with total field magnetic highs and positive copper-in–soil geochemistry. These anomalies are also priority drill targets for future exploration drill programs.

Not all anomalies have produced positive results. A chargeability anomaly from the 2006 GAIP survey was drill tested in 2007 with negative results. No significant copper-gold mineralization was encountered despite the intersection of multiple, thick sequences of foliated favourable host rock. Minor pyrite and trace chalcopyrite was sporadically encountered in four drill holes but it is believed that the low concentration of this mineralization does not satisfactorily explain the chargeability results.

Despite excellent correlation of copper-gold mineralization with GAIP anomalies at other locations on the Minto property, the survey does not yield a unique correlation with high grade mineralization. The GAIP survey is a tool that is more efficient when used in conjunction with other corroborating data suggestive of buried mineral deposits. For example, at Copper Keel and Airstrip, direct targeting of GAIP anomalies was considered instrumental in their discoveries. However, at Ridgetop and Area 2/Area 118, breaks in the GAIP and Magnetic anomalies were helpful in inferring some limiting structures but the projection of nearby 3D models and previous drilling provided the strongest rationale for 2007 drilling.

Drilling in 2008 has shown that the GAIP method is less effective in areas of deep overburden with variable permafrost conditions. Three new areas of mineralization were discovered in the Upper Minto Creek Valley under permafrost bearing overburden in areas that did not show any significant GAIP anomalies. Total Field Magnetic data was of some use in these areas, but drilling magnetic anomalies also produced inconsistent results. Future success in areas of deep overburden will rely heavily on geological modelling.

# 11 Drilling

Up to July 17 2008, MintoEx had drilled a total of 17,099 metres in 81 drill holes on the Minto Property as part of its 2008 program. This program is still in progress and none of the 2008 drill holes were used in the resource estimations discussed in this report. The 2008 drilling is contracted to Peak Drilling Ltd. of Courtney, BC and is being supervised by Minto Explorations Ltd. (MintoEx) and Sherwood Copper Corporation staff geologists.

In 2007 MintoEx drilled a total of 23,618 metres in 101 diamond drill holes at the Minto, Area 2, Area 118, and Ridgetop deposits, and at various other prospects. Drilling was conducted between February 17 and October 12, 2007 by Cabo Drilling (Pacific) Corp. of Surrey, BC under the direct supervision of MintoEx and Sherwood Copper Corporation staff geologists.

A total of 74 holes for 16,749 metres of the 2007 drilling were incorporated into the four resource models described in this report. The remaining 27 holes for 6,869 metres were drilled at exploration prospects outside of these resource models. The median length of 2007 MintoEx drill holes is 243 metres (average 231 metres), with the shallowest hole being 51 metres in length and the deepest, 426 metres. MintoEx Diamond drill holes by year and deposit, from 2005 through 2007, are summarized in Table 11.1, below.

Company	Deposit	Year	No. DDH	Туре	Core Size	Metres	Angled	Vertical
MintoEx	Minto	2007	5	DDH	(3) HQ, (2) NQ	754	3	2
MintoEx	Minto	2006	25	DDH	NQ	4,119		25
MintoEx	Minto	2005	44	DDH	NQ	5,369	8	36
MintoEx	Area 2	2007	26	DDH	NQ	7,672	2	24
MintoEx	Area 2	2006	79	DDH	NQ	18,134		79
MintoEx	Area 118	2007	23	DDH	NQ	6,437		26
MintoEx	East Ridgetop	2007	25	DDH	NQ	3,432		25

Table 11.1: Summary of MintoEx Drill Holes by Deposit (excluding 2008 drilling)

In 2007, MintoEx drilled 5 drill holes (754 m) into the Minto deposit (see Figure 17.1). The drilling comprises 3 angled HQ holes (293 m) and 2 vertical NQ holes (462 m). Hole length ranges from 89 m to 362 m. The median drill length was 99 m; average drill length was 151 m. These drill holes were used to update the resource estimate originally prepared in 2006.

The Area 2 resource estimation incorporates 2007 drilling within Area 2, drill holes connecting Area 118 to Area 2 and 21 drillholes completed by ASARCO in the 1970's that were not included in the previous estimation (SRK, 2007). In 2007, 7672 m in 26 vertical NQ drill holes and 493 m in 2 angled NQ holes were drilled. The Area 2 drill holes drilled in 2007 range from 127 m to 426 m in

length, with a median length of 322 m and an average length of 295 m. 5 drill holes of the 26 are also used in the resource estimation for Area 118. A total of 19 vertical holes and 2 angled holes drilled by ASARCO in 1973 and 1974 were included in the resource estimation. Drill holes used in the resource are shown in Figure 10.1. The size of the historical ASARCO drill core was not recorded but is believed to be BQ size, based on observation of core found in core storage sheds destroyed by forest fire. Drill collars are spaced at approximately 28 m centers on a northeast striking grid.

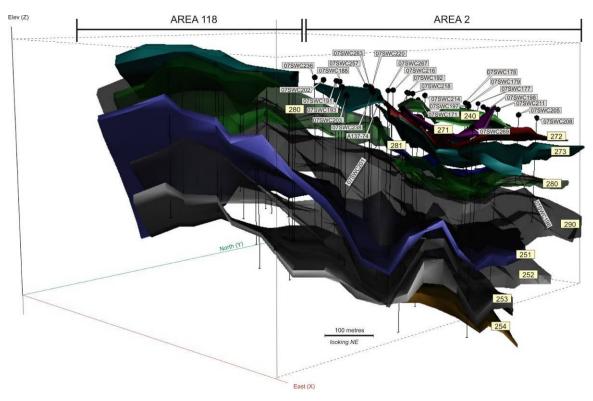


Figure 11.1: Wireframes of Mineralized Domains with Drill Holes, Area 2

At Area 118, MintoEx drilled a total of 6437 metres in 23 vertical diamond drill holes between June 4 and October 12, 2007; the drill core size is NQ. The median length of the drill holes is 279 metres (average 280 metres); shallowest hole was 215 metres long and deepest hole was 383 metres. The 23 drill holes include 5 drill holes (1546 m) also used in the Area 2 resource estimation. Five vertical holes (1391 m) drilled by ASARCO in 1974 were included in the Area 118 resource estimate. ASARCO core is assumed to be BQ. Drill hole collars are spaced approximately every 60 m. Mineralized zones, shown in Figure 10.2, undulate and dip shallowly to the northwest.

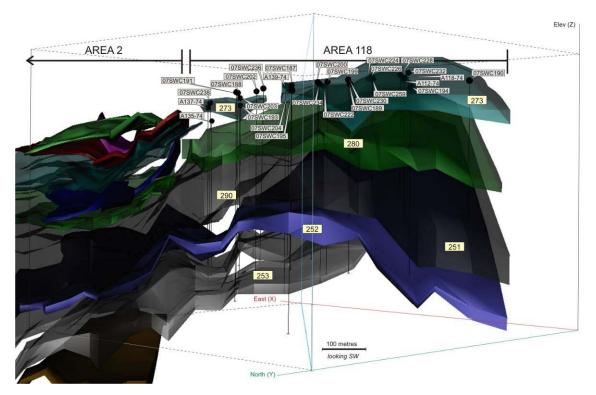


Figure 11.2: Wireframes of Mineralized Domains with Drill Holes, Area 118

At East Ridgetop, MintoEx drilled a total of 3432 metres in 25 vertical diamond drill holes from May 26 to October 7, 2007. The size of the MintoEx drill core is NQ. The median length of 2007 East Ridgetop drill holes is 129 metres (average 135 metres); the shallowest hole was 55 metres long and the deepest hole was 216 metres. One vertical hole (150 m) and three angled holes (468 m) drilled by ASARCO in 1971 and three angled holes (410 m) drilled in 1972 were included in the resource. Size of the ASARCO drill core is assumed to be BQ. In 1994, four vertical holes (520 m) and five angled holes (654 m) of HQ-sized core were drilled; these holes were used in the resource estimate. Drill hole collars are spaced at approximately 40 to 60 m centers. Mineralized zones are sub-horizontal, dipping shallowly to the east.

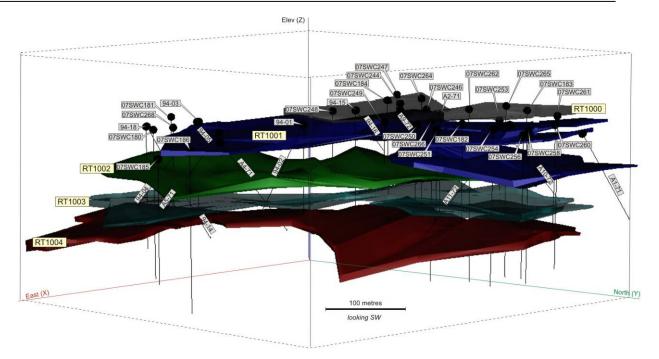


Figure 11.3: Wireframes of Mineralized Domains with Drill Holes, East Ridgetop

All drilling for MintoEx since 2005 was completed using the imperial system and footages were converted to metres by MintoEx personnel who logged and recorded all data in metres. Drill hole collar locations were initially located using a differential GPS unit and more precise location coordinates were surveyed after completion of drilling by the Minto Mine survey team.

Acid tests were performed at the end of each hole from February to July 2007; longer holes often had additional acid tests at various depths down the hole. However, all but 4 of 29 drill holes, where acid tests were used to determine downhole dip deviations, were vertical. Minimal deviations were the norm in all holes. From July to October 2007, downhole surveys were performed using a FLEXIT tool. Although local magnetite concentrations sometimes prevented measurement of azimuth deviations, the tool overall provided realistic readings showing minor deviation in azimuth and dip. Mineralized intervals measured in the vertical drill holes are believed to represent very close to the true widths of mineralized layers within the deposit because of the sub-horizontal attitude of the mineralized zones.

The core was transported from the drill rig to the logging facility by the drilling contractor, where MintoEx personnel logged it for geology; sampling and geotechnical purposes. Geological data, including lithology, structure, alteration and mineralization was recorded for all drill holes. All drill core was photographed for easy reference when constructing geological models for resource estimation.

Geotechnical data was collected on all drill holes in 2007, including RQD, core recovery, fracture density and orientation, hardness and joint data. Orientation data for individual joints and structures

was not measured as most holes were drilled vertically, but the approximate alpha angle was recorded. Recovery was typically very good to excellent.

Magnetic susceptibility data was also collected for each drill hole in 2007. No direct correlation between the degree of magnetic susceptibility and grades of mineralization can be made, but a marked increase in the magnetic susceptibility is noted in mineralized intervals. This is not surprising since increased magnetite content is frequently logged in all mineralized horizons. However, magnetite is often more pervasive than sulphide mineralization and magnetite concentrations are not directly proportional to copper grade. Elevated levels of magnetite are found within the mineralized horizons, but where sulphide mineralization has a sharp transition from foliated to unfoliated domains, magnetite alteration can persist, although at much lower concentrations into unmineralized domains. In some instances, the presence of hematite or hematite/magnetite combinations in unmineralized domains corresponds to brittle structures, suggesting some remobilization of iron after mineralization and is thought to be due largely to supergene processes. In such case, the magnetic susceptibility readings are muted somewhat.

Sample intervals were marked on the core and a cut line was drawn with a china marker for the diamond saw cutter to follow. Half of the core was placed in a sample bag and the other half was returned to the core box. Sample intervals were nominally taken at 1.5 m in the mineralized zones, with three samples taken into the waste contact. Waste material between mineralized zones was sampled at 3 m intervals to avoid gaps in assay data. Sample intervals from the vertical holes approximate the true width of the mineralized zones. Sampling results are described in detail in subsequent sections.

Bulk density measurements were taken from all holes drilled in 2007 in both mineralized and waste material. Measurements were taken at approximately 3 m intervals in ore, corresponding to 1 measurement per run in strongly mineralized material, 1 every 5 m in poorly mineralized material and at least 1 measurement every 20-30 m in waste. Pieces of core were weighed both in air and in water using an Ohaus triple beam balance. Spot checks on the field data were undertaken internally by MintoEx, where 121 samples from 100 drill holes were analyzed. Measurements were recorded on a triple beam scale on the same piece of core that was originally measured. Bulk density measurements obtained prior to 2005 were not used in the resource estimations.

For additional information regarding drilling and bulk density measurements obtained prior to 2007 for the Minto and Area 2 deposits, please refer to Section 7 in "*Technical Report (43-10 1) for the Minto Project*" by Hatch (August 2006) and to Section 11 in "*Area 2 Pre-feasibility Study Minto Mine, Yukon*" (November 2007) found on the <u>sedar.com</u> website.

# **12 Sampling Method and Approach**

### 12.1 1973 to 2001

The sampling programs in place for the historical samples were implemented by geological employees of large Canadian, American and International mining companies. No reports or data detailing the sampling methods, analyses methods, quality control measures or security procedures used by the previous lessee companies were available to the authors for review and verification during the time of this report preparation.

Based on the information available, most of the samples sent for analysis were obtained by splitting the core using a mechanical wheel core splitter (in contrast to a diamond saw in 2005-2007). In the case of two holes drilled in 1993 for metallurgical grinding testing, the entire core through the mineralized interval was utilized to improve the validity and reliability of the metallurgical tests and hence no assay data are available.

In the early drilling, sample intervals were consistently 1.5 m or 3 m long, except in areas of complicated geology or contacts. The 2001 drill program utilized a 1.5 m sample interval, with smaller samples taken at contacts or mineralization variations. The mineralization is quite obvious and contacts between mineralized and non-mineralized material are generally sharp.

In the deposit, the intensity of sulphide mineralization is generally consistent and evenly distributed, so no inadvertent biasing of the results, depending on what part of the core was sampled, is expected.

## 12.2 2005 to 2006 (MintoEx)

The mineralized intervals intersected in core have been sampled in lengths ranging from 0.3 m to 3.0 m and averaging 1 m to 1.5 m. The sampling intervals are typically 1.5 m in mineralized material and 3 m in longer waste intervals within the mineralized zones. Two shoulder samples are taken in waste at both the upper and lower contacts, consisting of a 1.5 m sample and a 1 m sample. Samples do not cross geological contacts. The author believes this approach is sound and is appropriate for this style of mineralization and the objectives of the program.

MintoEx analyzed 1,391 sawn core samples in 2005 and 1,354 in 2006. The samples were tagged and then split in half using a rock saw on site. One half of the core was put into sample bags and then packaged into rice bags with security zip seals and sent to Vancouver for assaying. Manitoulin Transport was used to send the samples by ground in 2005 and Air North was commissioned in 2006 to air freight the samples. The remaining core was returned to the boxes and remains on site as a record of the hole.

In 2005 and 2006, the core was photographed after the sample tags were stapled to the boxes at the downhole end of each sample. Sample tags for standards were also stapled to the box in the order they were taken.

# 12.3 2007 (MintoEx)

The mineralized intervals in core were sampled in lengths ranging from 0.24 m to 3.49m and averaging 1.33 m with a median of 1.5 m from 7,450 sawn core samples. Sampling intervals were typically 1.5 m in mineralized material and 3 m in longer waste intervals between mineralized zones. Drill core assay samples were collected from all foliated granodiorite horizons and, typically, sampling extended into the surrounding massive, unfoliated and unmineralized rock for at least 3 metres. Individual samples do not cross the geological boundary between foliated and unfoliated rock which is generally a sharp contact. The sampling methodology is appropriate for this style of mineralization.

In 2007, MintoEx cut 9,386 core samples by diamond saw, located on site adjacent to the exploration camp. One half of the core was put into sample bags and then packaged into large rice bags with security zip seals and transported to the laboratory for assaying. From July 5 to 15, 2007, 485 samples were transported by truck to SGS Laboratories (under contract agreement) at the Minto Mine Site, Yukon for assaying for copper and silver. Lab capacity was unsuited to a large, ongoing influx of exploration samples so no further samples were submitted. The coarse rejects for the 485 samples and sawn core for all subsequent samples were sent to ALS Chemex in Terrace for processing, and on to Vancouver for assaying and ICP multi-element analysis. Samples were transported initially to Whitehorse by Small's Expediting Ltd and then to Vancouver or Terrace by bonded carrier; either Manitoulin Transport or Air North Ltd. The remaining half of the core was returned to the wooden boxes and remains on site as a record of the hole.

Drill core was photographed after the sample tags were stapled to the boxes at the down hole end of each sample. Sample tags for standards were also stapled to the box in the order they were taken.

The information in this Section 13 applies only to Area 2, Area 118 and Ridgetop. For additional information regarding sample preparation, analyses and security prior to 2007 for the Minto and Area 2 deposits, please refer to the "*Technical Report (43-10 1) for the Minto Project*" by Hatch (August 2006) and to the "*Area 2 Pre-feasibility Study Minto Mine, Yukon*" (November 2007) found on the <u>sedar.com</u> website.

### 13.1 Historic Samples

#### 13.1.1 ASARCO 1971 to 1974

There are no detailed descriptions of the historical sampling methods used by ASARCO, however, based on observations, it is thought that they favoured 5 and 10 foot long samples. It should be noted that there are very few ASARCO holes in the resource and all of them have nearby MintoEx holes so the effect of the ASARCO data on the resource calculation is very limited.

Little is known about the sampling protocols and quality control procedures used for the ASARCO drill holes. No usable core survives from that period. It is inevitable that company employees would be involved in this process but the exact involvement or names of these ASARCO employees is unknown (other than the project manager F.T. Graybeal who is an advisor to Sherwood Copper). It is not known whether officers or directors of ASARCO were involved in the sample preparation but is considered unlikely, given the minor nature of the project. Subsequent sample preparation such as crushing, pulverizing and sample splitting would have been the responsibility of the laboratory.

Chemex in Vancouver is believed to have been responsible for the 1970s analyses (Simpson, 2002). At the time, copper analyses were typically performed by digesting a 2 g sample pulverized to 100 mesh, in perchloric and nitric acid with an AA finish. Modern practices use a 0.4 g 150 mesh samples and aqua regia digestion. Gold analyses in the 1970's probably used a 10 g pulp digested in aqua regia and an AA finish. Electronic microbalances and improvements in AA analysis have combined to reduce detection limits in the past 25 years.

Some of the early samples were not analyzed for precious metals. Most samples were analyzed solely for total copper. The result is an incomplete data set in terms of gold and silver. Copper oxide mineralization is confined typically to the upper level of the deposit and, historically, non-sulphide copper was not universally quantified by analysis of soluble copper.

#### 13.1.2 TECK 1993 to 2001

From 1993 to 2001, TECK (now part of Teck Cominco) drilled 48 diamond drill holes on the Minto property.

Eight 1993, two 1999 and five 2001 drill holes are included in the drill hole database for the Minto main deposit, now a producing open pit. Nine 1994 drill holes are included in the drill hole database for the Ridgetop East project area. The nine holes are located in the southern half of the Ridgetop East resource area; MintoEx drill holes are located 39 m to 118 m from the mineralized intersections.

Sample lengths vary from 0.55 m to 2.75 m, averaging 1.59 m with a median of 1.53 m.

Sampling protocols used for the TECK drill holes were not well documented. The historic samples would likely have been prepared on site from split core under the supervision of TECK and MintoEx geologists, bagged and shipped to the laboratory. As in 1974, it is assumed company employees would be involved in the sampling process but the author does not know the exact involvement or their names other than the project manager, F.T. Graybeal. It is considered unlikely officers or directors of TECK or MintoEx were involved in sample preparation. Subsequent sample preparation such as crushing, pulverizing and sample splitting would have been the responsibility of the laboratory.

Northern Analytical Services of Whitehorse, Yukon conducted the analyses for copper, gold and silver. Analytical methods are not documented in the certificates of analysis for this work, but are believed to be equivalent to the methods listed on the certificates for check analysis performed by Chemex, detailed below. Non-sulphide copper was not initially quantified by analysis of soluble copper at Northern Analytical Services.

At the completion of the 1994 drilling campaign, 10 samples ranging in grade from 0.77% to 18.00% copper were submitted to Chemex for check analysis. The copper analyses were performed by digesting a 0.4 g sample pulverized to 150 mesh, in reverse aqua regia digestion with an AA finish. Gold analysis on all check samples was initially performed using the half-assay ton fire assay method with an AA finish. The gold analyses were subsequently re-assayed using a one-assay ton fire assay with AA finish and one-assay ton fire assay with gravimetric finish; results were found to be comparable. Silver analysis was performed using reverse aqua regia digestion and AA determination.

Bondar-Clegg of North Vancouver carried out the analyses of the 2001 samples. Each sample was coarse analysis, a 0.25 gm sample was digested with HCL, HNO3, HCLO4 and HF acids with final copper determination by AA Spectroscopy. Gold and silver were determined by fire assay using a 30 gm sample and AA finish.

No useable mineralized intersections of the 1994 TECK Ridgetop East drill holes remain on-site. A few stacks of 1994 core were discovered at the old location of the Minto Exploration camp site and at the Yukon Geoscience core library but the bottom of the holes containing mineralized intervals were not present. No other useable drill core from the 1993 to 2001 period remains on-site.

Quality control procedures used in during the 1993 to 2001 drill programs are not known. The 2001 sample shipments were accompanied by 4 types of quality control samples, namely: a blank (granodiorite from the site), an ASARCO coarse standard, prepared pulp samples and duplicate splits

(coarse ground rejects and the pulverized rejects). Some of the blanks were placed immediately following a rich copper sample and they returned trace amounts of Cu. This could possibly indicate minor contamination during the sample preparation process, but the amount of contamination was deemed insignificant (Simpson, 2001). All of the other quality control measures produced acceptable repeatability (Simpson, 2001) verifying the results of the 2001 drilling.

Information regarding security of samples, as required in NI 43-101, was not documented during the 1993 to 2001 drill programs.

#### 13.1.3 MintoEx 2005 and 2006 Samples

During 2005 and 2006, drill core samples, blanks and duplicates were submitted to the Vancouver Chemex laboratory for copper and gold analysis in North Vancouver, Canada. In 2005, all samples were processed in Vancouver. In 2006, some samples were processed at other Chemex locations. Chemex-Elko, NV, USA processed 9% of the total number of samples and Chemex-Thunder Bay, ON processed 11%.

The samples submitted to Chemex were first crushed in a jaw crusher to reduce the material to greater than 70% -10 mesh (2 mm). A 100 to 250 g subsample was then split and pulverized to better than 85% passing -75  $\mu$ m.

Copper was determined through four acid digestion method (HF, HNO3, HCLO4 digestion and HCL leach) with final copper determination by atomic absorption spectroscopy ("AAS"). Non-sulphide copper was analyzed using sulphuric acid leach with AAS determination.

Gold was determined by one assay-tonne fire assay analysis. During 2005, all sample analysis was completed by gravimetric finish. During 2006, the first 17% (1,955) of the sample analysis was completed by gravimetric finish. For the remaining samples (9,182), the gold analysis was determined using AAS method. Silver was analyzed using aqua regia digestion and AAS finish.

All samples were accompanied by Standard Reference Material ("SRM") samples, blank samples and pulp and coarse reject duplicates to ensure the quality of the assay results are acceptable for resource estimation purposes and public disclosure. Blank material in 2005 and 2006 is approximately 1 kg of unfoliated granodiorite chips collected from a rock cut located on the main access road approximately 2 km due east of the Minto deposit. Two standard reference material samples (SRM) were inserted for each batch of 20 samples, one for copper and one for gold.

Pulp check samples representing 6.5% of the sawn core samples submitted were sent to Acme Laboratories in Vancouver, Canada at the end of the drill program in 2005. Acme analyzed these check samples using the same analytical procedure as Chemex. Overall, the gold and copper values show some scatter in the figures but there is not bias as the scatter appears even around the mean. The target for pulp samples analyzed at different labs should have a relative difference not exceeding 15% at the 90th percentile. The gold results for the check samples in 2005 had a relative difference of 15% for 70% of the population. The copper results for the check samples in 2005 had a relative

difference of 15% for the whole of the population. This level of precision is acceptable but warranted improvement for gold and excellent for copper; the results are shown to be reproducible.

Overall the copper and gold analysis results from Chemex can be considered acceptable for resource estimation purposes.

In 2006, five percent of the database was been selected from Area 2 drill holes and samples were submitted back to the laboratory for blind analysis. It can be a concern that the laboratory is aware of the placement of SRM samples in the sample stream as they typically receive core samples to be prepared into pulps, and a pulp envelope containing the standard. A good practice is to gather 5% of the pulp samples that were analysed by the lab and resubmit them back to the lab with new sample numbers and standards reinserted into the shipment. In this way, the lab receives a series of identical pulp envelopes and the actual placement of the standards is now unknown to them. The results of these samples are reviewed for any difference in the tenor of the standard results when the lab does not know their placement in the shipment. This process tests the ability of the laboratory to reproduce similar results of the original sample assays.

Results in all grade ranges were reproducible. Despite some scatter in the gold results, the data was well distributed about the mean with a single significant outlier present in the gold duplicate pairs (original value 4.16 g/t Au compared to duplicate value of 2.68 g/t). The copper duplicate results were satisfactory. For gold, 79% of the 97 pairs were within 15% of each other. This level of precision is not optimal but does represent an improvement from the 2005 duplicate pairs program. For copper, more than 95% of the 114 pairs had absolute differences of less than 10%.

Of 595 blank samples analyzed, only 8 returned elevated gold and copper results. Internal review by MintoEx indicated that most of these erroneous values may have been the result of sample switches. None of the samples with elevated gold or copper values is indicative of systematic or long term contamination of the samples during sample preparation procedures at the lab.

Analyses of the laboratory duplicates show sample preparation protocols used are excellent for copper analysis and are very good for the gold analysis. To optimize the gold assay results, it was recommended that the coarse reject protocol change from 70% passing -10 mesh to 85% passing the -10 mesh screen and the pulp preparation protocol be changed from a 100 to 250 g sample pulverized to better than 85% passing -75  $\mu$ m to a 250 g sample with better than 90% of the material passing - 75  $\mu$ m mesh. Changes to the sample preparation protocol were not completed during the 2007 program and are anticipated for future analytical work.

Varying grades of copper and gold SRM, purchased from CDN Resource Laboratories of Delta, BC ("CDN") and from WCM Sales Ltd of Burnaby, BC ("WCM") were submitted in sequence with the sawn core samples. A total of 578 SRM were analyzed. The performance of all copper standards was acceptable, demonstrating the assay process was in control for all grade ranges in the 2006 Area 2 samples. Performance of the gold standards in all grade ranges was acceptable; the quality

and reproducibility of the analyses improved with the AAS finish over the gravimetric finish after fire assay.

For additional information regarding performance of quality control samples in 2005 and 2006, please refer to "*Technical Report (NI-43101) for the Minto Project*", Hatch, August 2006 and to "*Area 2 Pre-feasibility Study Minto Mine, Yukon*", SRK Consulting (Canada) Inc., November 2007.

#### 13.1.4 MintoEx 2007 Samples

The 2007 drill core samples, blanks SRMs and duplicates were submitted to the Vancouver Chemex laboratory for copper and gold analysis in North Vancouver, Canada. Some samples were processed at other locations. SGS Laboratories under agreement with MintoEx processed 485 samples (6% of the total number of samples); assays were performed at the Vancouver Chemex Lab. Chemex-Elko, NV, USA processed 4% of the total number of samples, Chemex-Reno, NV, USA processed 10%, and Chemex-Terrace processed 50%.

The samples submitted to Chemex were first crushed in a jaw crusher to reduce the material to greater than 70% -10 mesh (2 mm). A 100 to 250 g subsample was then split and pulverized to better than 85% passing -75  $\mu$ m.

Copper was determined by four acid digestion method (HF, HNO3, HCLO4 digestion and HCL-leach) with final copper determination by atomic absorption spectroscopy ("AAS"). Non-sulphide copper was analyzed using sulphuric acid leach with AAS determination. Gold was determined by one assay-tonne fire assay analysis. The gold analysis was determined using AAS method. Silver was analyzed using aqua regia digestion and AAS finish.

All sample submittals included SRM samples, blank samples and pulp and coarse reject duplicates to assure the quality of the assay data.

Of 674 blank samples analyzed, 3 returned elevated gold or copper results. Internal review by MintoEx has shown that one of the erroneous values is likely the result of sample switches. None of the samples with elevated gold or copper values is indicative of systematic or long term contamination.

Analyses of the laboratory duplicates indicate that the sample preparation protocols currently in place are excellent for copper analysis and are very good for the gold analysis. Despite the recommendation to increase the amount of coarse and pulp material passing fine meshes, no adjustments were made to the sample preparation as any deviation from the standard processing protocols at Chemex unacceptably increased the turn around time for results. Implementation of the recommendations was organized for 2008 analyses.

### **13.2 Standard Reference Material**

SRMs of varying grades for copper and gold were purchased from CDN of Delta, BC, WCM of Burnaby, BC and Analytical Solutions ("ASL") of Toronto, ON. Details of the SRM are summarized in Table 13.1. The performance of all copper standards was acceptable and showed that the assay process was in control for all grade ranges in the 2007 Minto, Area 2, Area 118 and Ridgetop East samples. Performance of the gold standards in all grade ranges was acceptable.

MintoEx considered a SRM sample to have failed if a single value exceeds the third standard deviation limit or if two consecutive standards fell between the second and third standard deviation limits. When a sample failed, MintoEx reviewed the data and if a re-assay was warranted, the assay laboratory was contacted and instructed to re-assay the failed sample batch. The laboratory was instructed to review the samples for sufficient material for re-analysis. If an SRM had insufficient material left in the sample bag, then the laboratory was supplied with a new standard before re-assaying of the batch began. Some re-assayed samples and internal lab investigations requested by MintoEx are outstanding at the time of this report.

For copper, most of the charts for each of the SRM samples show good distribution about the mean and no apparent bias of the results. Periods of weak apparent bias are evident on some of the charts and they are discussed in detail below. For gold, all SRMs show good distribution about the mean and there is no apparent bias associated with the analytical results. Results of QA-QC samples from 2007 drilling including Minto, Area 2, Area 118 and Ridgetop East are shown in Figures 13.1 through 13.17.

# Table 13.1: SRM Included in 2007 Sample Shipments for Area 2, Area 118 andRidgetop East Drill Hole Samples

SRM Sample Name	Source	Mean Grade	Upper Limits +2STD/+3STD	Lower Limits -2STD/-3STD	No Samples Inserted	Dates		
Copper and Gold								
CGS-07	CDN	0.95 g/t Au 1.01 % Cu	1.03/1.07 g/t Au 1.08/1.12% Cu	0.87/0.83 g/t Au 0.94/0.91% Cu	84	February to November 2007		
CGS-08	CDN	0.08 g/t Au (provisional Au) 0.105 % Cu	0.09/0.1 g/t Au 0.113/0.117% Cu	0.07/0.065 g/t Au 0.097/0.093% Cu	14	June to September 2007		
CGS-09	CDN	0.34 g/t Au 0.47 % Cu	0.37/0.39 g/t Au 0.50/0.51% Cu	0.31/0.29 g/t Au 0.45/0.44% Cu	37	February to September 2007		
CGS-10	CDN	1.73 g/t Au 1.55 % Cu	1.88/1.96 g/t Au 1.62/1.66% Cu	1.58/1.51 g/t Au 1.48/1.44% Cu	86	February to August 2007		
CGS-1 1	CDN	0.73 g/t Au 0.68 % Cu	0.80/0.83 g/t Au 0.71/0.72% Cu	0.66/0.63 g/t Au 0.66/0.64% Cu	122	February to November 2007		
CGS-12	CDN	0.29 g/t Au 0.27 % Cu	0.33/0.35 g/t Au 0.280/0.288% Cu	0.25/0.23 g/t Au 0.25/0.242 Cu	96	February to November 2007		
CGS-13	CDN	1.01 g/t Au 0.33 % Cu	1.12/1.18 g/t Au 0.35/0.36% Cu	0.9/0.85 g/t Au 0.31/0.30% Cu	8	February to November 2007		
	Copper							
Cu 128	WCM	2.60% Cu	2.68/2.73 % Cu	2.51/2.47 % Cu	9	February to August 2007		
SRM-95	ASL	2.59% Cu	2.72/2.785 % Cu	2.46/2.395 % Cu	2	August to October 2007		

#### 13.2.1 SRM CDNCGS07

SRM CDNCGS07 has a mean value of 0.95 g/t Au and 1.01% Cu. This SRM was inserted in the sample stream from February to late September 2007. The SRM samples typically performed well for the gold analysis and show even distribution about the mean (Figure 12.1). There are three failures evident on the chart. Re-assays of two of the failures remains outstanding; the third was not re-assayed as the assay batch contained only trace mineralization.

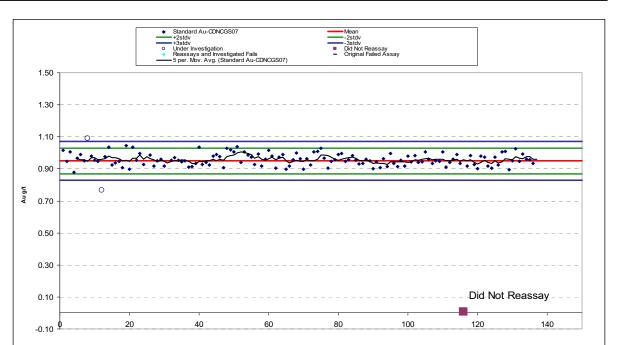
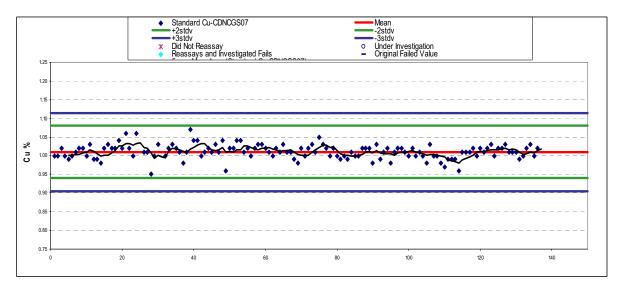


Figure 13.1: Plot of SRM CDNCGS07, Gold Results



#### Figure 13.2: Plot of SRM CDNCGS07, Copper Results

The SRM samples typically performed well for copper analysis. The results are biased slightly above the mean for the first half of the SRM usage and slightly below the mean for the latter half of the period shown in the chart (Figure 13.2).

#### 13.2.2 SRM CDNCGS08

SRM CDNCGS08 has a mean value of 0.08 g/t Au and 0.105% Cu. This low grade SRM was inserted in the sample stream for a short time, from June through mid September 2007, to provide

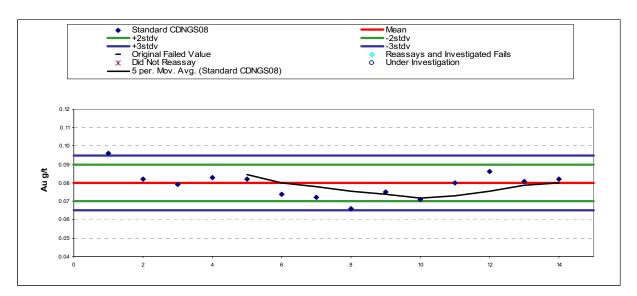
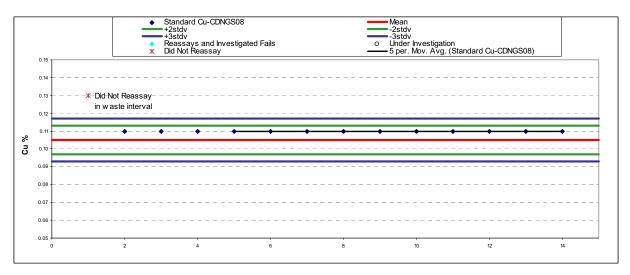


Figure 13.3: Plot of SRM CDNCGS08, Gold Results



#### Figure 13.4: Plot of SRM CDNCGS08, Copper Results

The SRM samples typically performed well for copper analysis. The results appear biased approximately one standard deviation above the mean, however this is an absolute value of 0.005% Copper and could be due to rounding. The single fail, shown in the chart (Figure 13.4) was not reassayed as it was in a poorly mineralized interval with less than 0.2% copper in the batch of 20 samples.

#### 13.2.3 SRM CDNCGS09

SRM CDNCGS09 has a mean value 0.34 g/t Au and 0.47% Cu. This SRM was inserted in the sample stream February to early September 2007.

0.50

0.40

0.20

0.10

0.00

Au g/t

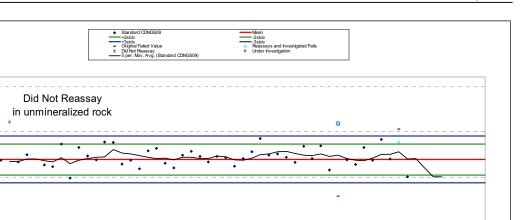


Figure 13.5: Plot of SRM CDNCGS09, Gold Results

20

0

10

Four failed SRM are shown in Figure 13.5; two failures remain unexplained and therefore under investigation after re-assays, one produced an acceptable result upon re-assays, one was not re-assayed as the failure occurred in a batch of unmineralized material. The results are weakly biased above the mean of the SRM.

30

40

50

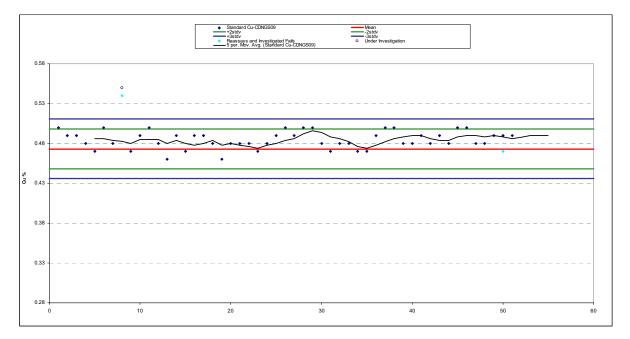


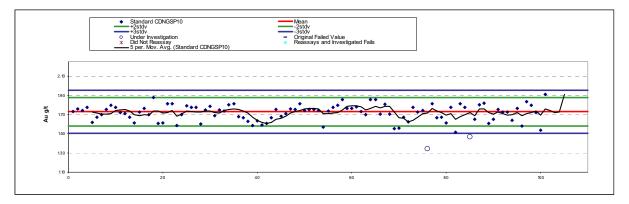
Figure 13.6: Plot of SRM CDNCGS09, Copper Results

Page 78

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The SRM performance for copper analysis was acceptable. One SRM failed (for both copper and gold) and returned a similar, unacceptable value upon re-assay. The SRM was located in foot wall material past the mineralized zone.

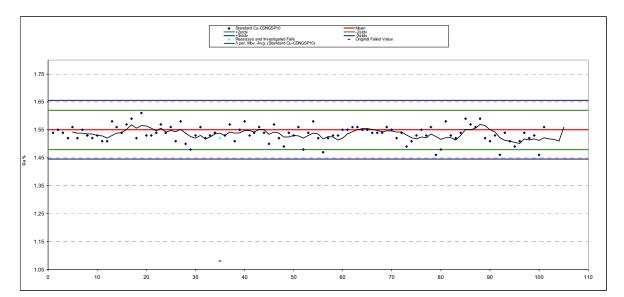
#### 13.2.4 SRM CDNCGS10



#### Figure 13.7: Plot of SRM CDNCGS10, Gold Results

SRM CDNCGS10 has a mean value of 1.73 g/t Au and 1.55% Cu. This SRM was inserted in the sample stream during the entire drilling campaign on the deposit, from February through to November 2007.

Gold values plot evenly above and below the mean and show no apparent bias in the results, represented in Figure 13.8. Two failures below three standard deviations occurred; re-assays remain outstanding at the time of this report.



#### Figure 13.8: Plot of SRM CDNCGS10, Copper Results

A single failure outside of three standard deviations below the mean of the SRM occurred for the copper analysis results (Figure 13.8). Re-assays and an investigation showed it to be a sample

switch with an adjacent core sample at the lab during the analytical stage. The copper values typically plot near the mean with a slight bias below mean for the SRM overall (0.01% copper less than the mean).

#### 13.2.5 SRM CDNCGS11

SRM CDNCGS11 has a mean value 0.73 g/t Au and 0.68% Cu. The SRM was inserted in the sample stream from for the duration of the drilling campaign, February to November 2007.

Overall, the gold values are distributed about the mean with few periods biased slightly above and below the mean. (Figure 13.9). Three sample failures of this standard occurred. One sample failure remains outstanding; one was corrected upon re-assay. The third failure was not re-run because the batch of samples associated with the standard contained only trace amounts of gold.

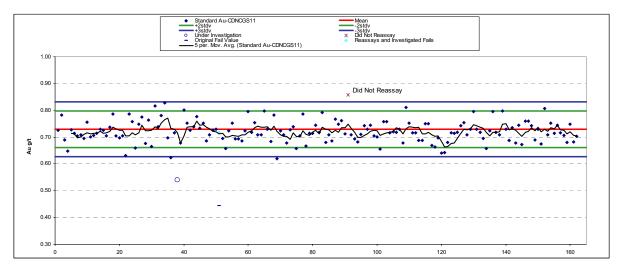


Figure 13.9: Plot of SRM CDNCGS11, Gold Results

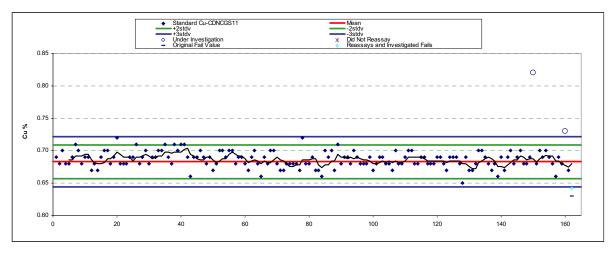


Figure 13.10: Plot of SRM CDNCGS11, Copper Results

Copper performance of the SRM was acceptable. The SRM showed a slight bias above the mean for the first third of the drill campaign but subsequent analysis are well distributed about the mean. Three SRM failures occurred; one was corrected upon re-assays and two remain re-assays remain outstanding.

#### 13.2.6 SRM CDNCGS12

SRM CDNCGS12 has a mean value 0.29 g/t Au and 0.27% Cu. The SRM was inserted in the sample stream from for the duration of the drilling campaign, February to November 2007.

Gold values are distributed evenly about the mean and do not show an apparent bias of the results (Figure 13.11). Ten failures of this SRM were reported; six were not re-assayed as the surrounding samples were in hanging wall, footwall or internal waste. Two failures above three standard deviations returned acceptable results upon re-assay. One failure below three standard deviations returned an acceptable value after re-assay. One re-assay remains outstanding.

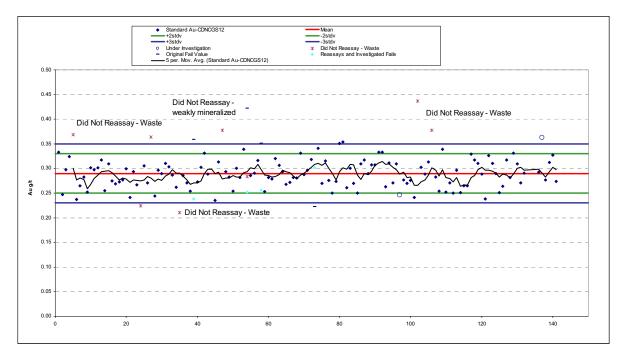


Figure 13.11: Plot of SRM CDNCGS12, Gold Results

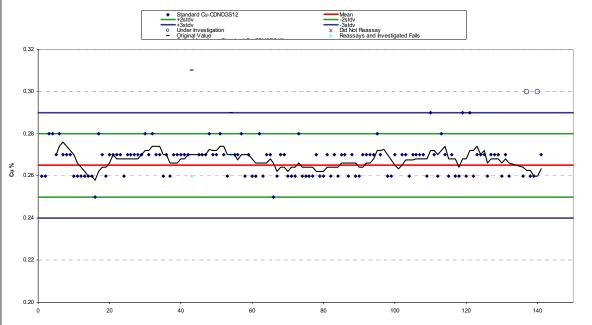
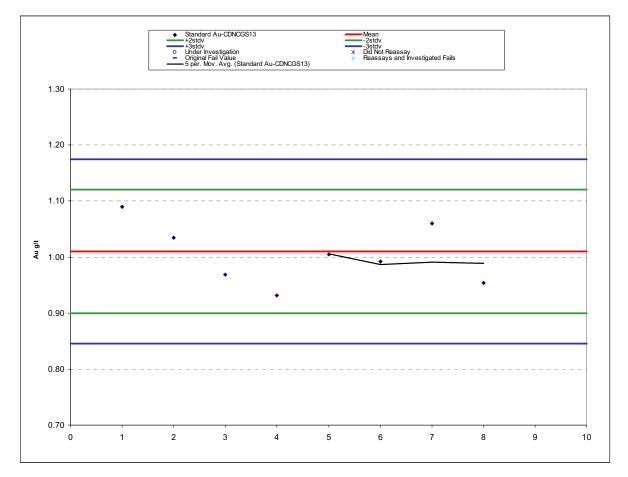


Figure 13.12: Plot of SRM CDNCGS12, Copper Results

Copper values plot between the mean of 0.27% Cu and the second standard deviation limit, 0.28% Cu. (Figure 13.12). Although there is a bias, the bias represents a grade uplift of only 0.005% Cu and should have no impact on the core sample results at this grade range. The SRM had three failures outside three standard deviations; one passed upon re-assays and two re-assays remain outstanding.

#### 13.2.7 SRM CDNCGS13

SRM CDNCGS13 has a mean value 1.01 g/t Au and 0.33% Cu. The SRM was inserted in the sample stream during the entire 2007 drilling campaign, February to November.



#### Figure 13.13: Plot of SRM CDNCGS13, Gold Results

All gold values for the SRM are acceptable and are well distributed about the mean, shown in Figure 13.13.

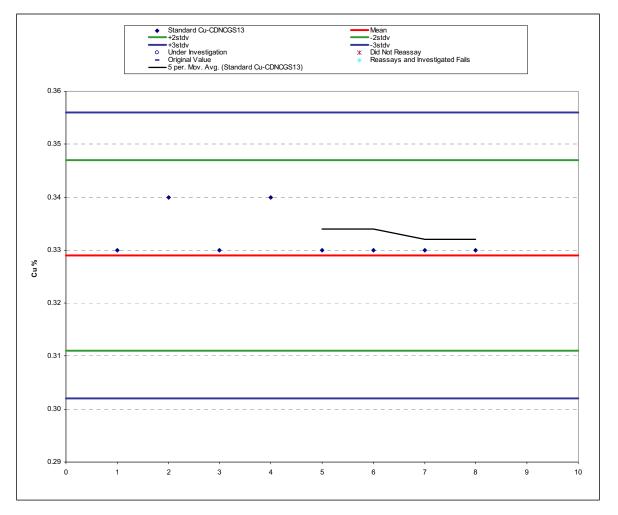


Figure 13.14: Plot of SRM CDNCGS13, Copper Results

The copper values for the SRM all returned acceptable values. Most values plot near the mean; the difference between the analytical value of 0.33 and the calculated mean of 0.329% copper can be attributed to reporting to two decimal places by the lab. Two of the eight SRM submitted plot at one standard deviation above the mean. The bias represents a grade uplift of 0.01% Cu and should have no impact on the core sample results at this grade range.

#### 13.2.8 SRM WCM-Cu128

SRM WCM-Cu128 was inserted in the sample stream from February to August 2007. All samples returned acceptable results and were well distributed about the mean (Figure 13.15).

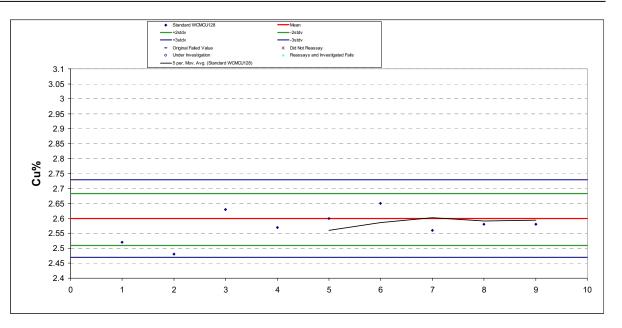


Figure 13.15: Plot of SRM WCM-Cu128, Copper Results

#### 13.2.9 SRM OREAS-95

SRM OREAS-95, mean 2.59% Cu, was inserted in the sample stream from August to October 2007. All samples returned acceptable results and plot one to two standard deviations below the mean. Not enough data is available to determine whether this would impact the core samples.

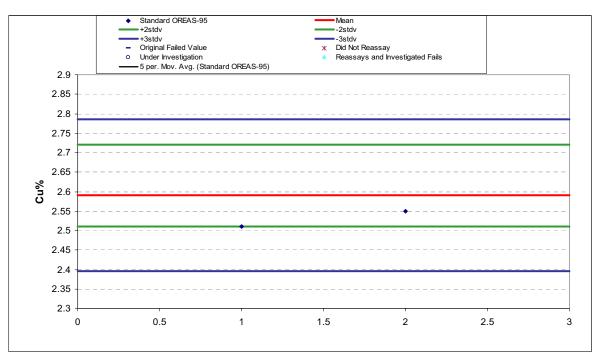


Figure 13.16: Plot of SRM WCM-Cu128, Copper Results

#### 13.2.10 Blanks

MintoEx personnel inserted one field blank sample into the sample stream for every 19 drill core samples submitted to ALS Chemex. The blank sample was inserted to ensure sample preparation procedures did not introduce any contamination of gold or copper to the sawn drill core samples. The field blanks consisted of pieces of local, barren granodiorite, void of any gold or copper values. A total of 674 blanks were submitted with the sawn core samples from the Minto, Area 2, Area 118 and Ridgetop East 2007 drilling campaign. Blanks performed very well, showing only very minor, sporadic contamination during sample preparation.

As shown in Figure 13.17, all but three of the blanks returned values well within acceptable limits for gold. Two high values returned acceptable values after re-assay. One failed blank is likely the result of a sample mix-up at the prep lab. The contamination illustrated in Figure 13.17 indicates very minor contamination. It is likely that contamination occurred during the sample preparation process for this sample; it is considered an isolated occurrence. For the most part, the results indicate adequate control procedures during the laboratory's preparation stages in the assaying process.

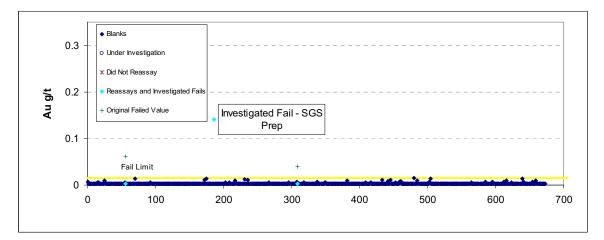
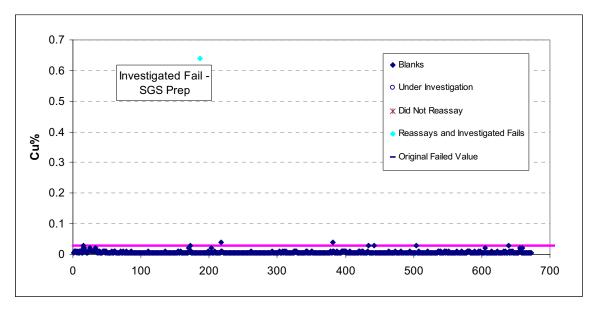


Figure 13.17: Plot of Blanks, Gold Results



#### Figure 13.18: Plot of Blanks, Copper Results

Figure 13.18 displays one blank failure out of 674 blank samples sent for Cu analysis. The one failed blank is likely the result of a sample mix-up at the lab (corresponds with the postulated sample mix up shown in the gold results for blanks, Figure 13.18). Seven sample results are on or close to the fail limit. This minor apparent contamination may have occurred during the sample preparation process and is considered an isolated occurrence rather than broad systemic contamination.

#### 13.2.11 Duplicate Samples

Second splits of the coarse reject and pulp material were taken for every 18 drill core samples to test the homogeneity of the sample material and reproducibility of the results. A total of 475 pulp and 344 coarse reject duplicate samples were analyzed for copper and gold.

Overall, copper and gold results were reproducible from pulp duplicates (Figure 13.19 to Figure 13.22). The duplicates were comparable to the original results and showed good distribution around the parity line with no apparent bias evident in the results for copper and a slightly lower value for the gold duplicate pulp where the original assay was greater than 1.5 gpt gold. These results indicate that the sample preparation protocols that are in place at the lab work well for the Area 2, Area 118 and Ridgetop East samples submitted for gold and copper analysis. One outlier was removed from the data set.

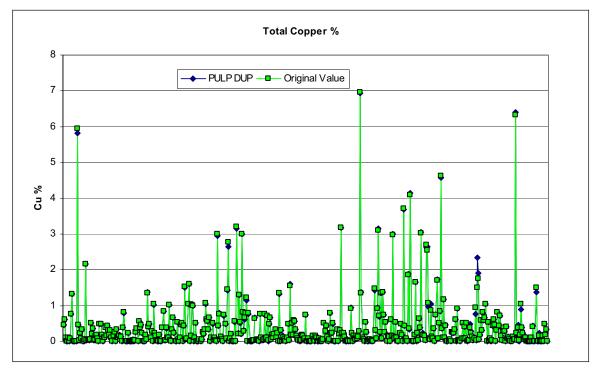


Figure 13.19: Plot of Pulp Duplicate and Original Value, Copper

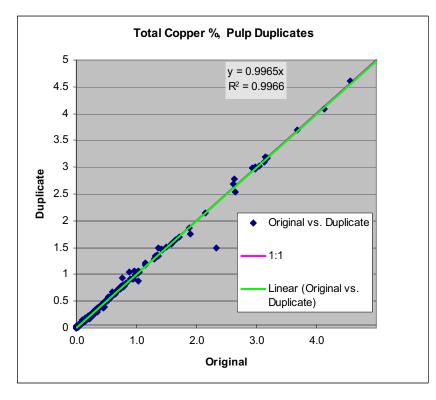


Figure 13.20: Plot of Original Value vs. Pulp Duplicate, Copper

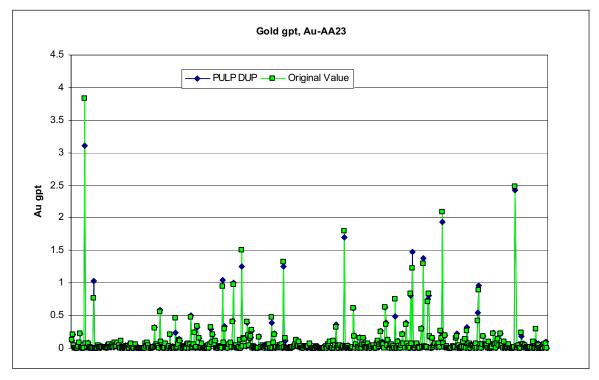


Figure 13.21: Plot of Pulp Duplicate and Original Value, Gold

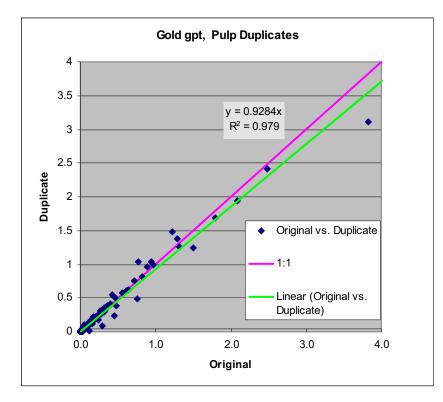


Figure 13.22: Plot of Original Value vs. Pulp Duplicate, Gold

The coarse reject duplicates also displayed good reproducibility and good distribution about parity with no apparent bias evident in the results (Figure 13.23 to Figure 13.26). These results indicate

that the sample preparation protocols in place at the lab work well for the Minto, Area 2, Area 118 and Ridgetop East samples submitted for gold and copper analysis. Three outliers were removed from the data set.

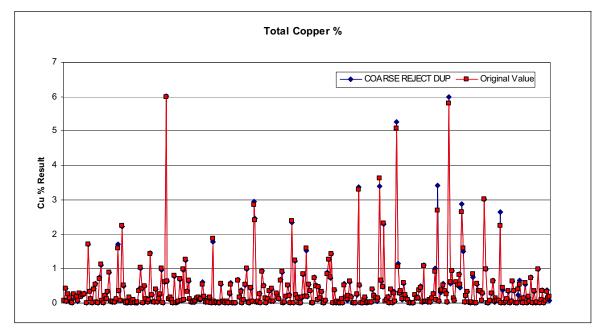


Figure 13.23: Plot of Coarse Duplicate and Original Value, Copper

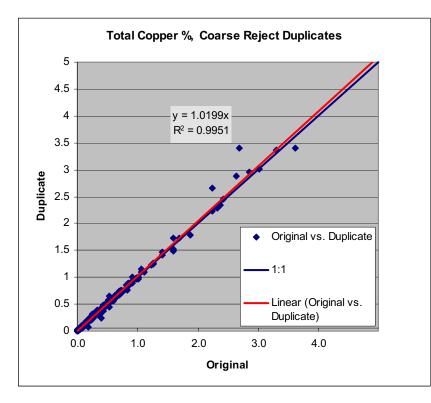


Figure 13.24: Plot of Original Value vs. Coarse Reject Duplicate, Copper

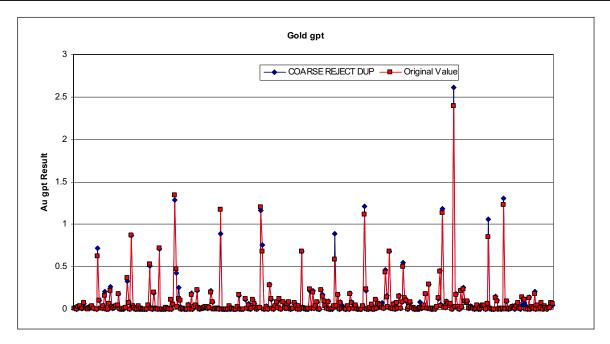


Figure 13.25: Plot of Coarse Duplicate and Original Value, Gold

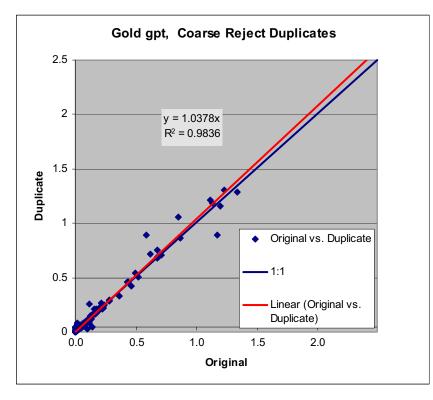


Figure 13.26: Plot of Original Value vs. Coarse Reject Duplicate, Gold

The percentile ranking chart (Figure 13.27) compares check samples of duplicates against the relative difference between original assays. At the 90th percentile of the samples, there should be an absolute relative difference of around 10% for pulp duplicates and 20% for coarse reject duplicates. The pulp duplicates indicate that, at the 90th percentile, there is an absolute difference of 19% in the

gold values and 5% in the copper values. Values are acceptable for resource estimation purposes although the gold value is slightly elevated. Minor adjustments can be made to the sample preparation protocols to optimize the gold analysis results. The copper values are well within the acceptable range. The coarse reject duplicates show that 90% of the gold values are within 20% and the copper values are within 14%. The gold values are exactly at the acceptable level. The copper reproducibility is excellent and well below the target threshold of 20%.

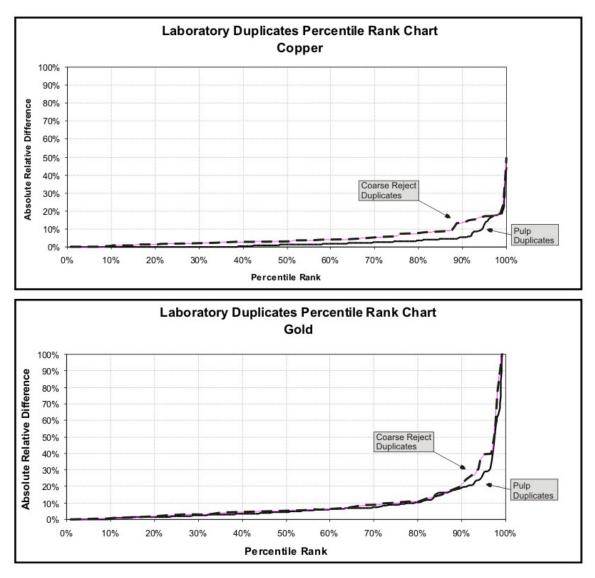


Figure 13.27: Plot of Original Value vs. Coarse Reject Duplicate, Gold and Copper

### 13.3 Between Lab Duplicates

Pulp check samples representing 1% of the sawn core samples analyzed during 2007 have been collected from Chemex. The pulp bags will be relabelled; SRM inserted every 20 samples and then submitted to Acme Laboratories in Vancouver, Canada for gold and copper analysis. The analytical methods at Acme will be identical to those used during the 2007 program at Chemex. Work on the between lab duplicates is not complete at the time of this report.

# 14 Data Verification

## 14.1 1973 to 2001

Independent data verification consisted of drilling by MintoEx, 2005 through 2007, in the Minto Deposit. No confirmation drilling was undertaken in the Area 118 and Ridgetop East. At Ridgetop East, however, two 2007 drill holes were drilled within 30m of a historic hole. No additional data verification was carried out on historic work. The historic work on the property has been carried out by reputable companies and there does not appear to be any reason to question the validity of the information. Core from the early drilling programs is not useable because both the Falconbridge and ASARCO core sheds have either collapsed and/or burned during regional forest fires. Much of the old core is now in piles on the ground. The core boxes appear to have been labelled by felt pen, rather than metal or plastic tags and the labels on core boxes that remain intact are not legible.

In 2002, ASARCO undertook a program to verify previous results and they were able to identify and recover holes from the dilapidated ASARCO core shed (Simpson, 2002). Two of the holes (20–73 and 22-73) cored the main zone mineralization. Unfortunately, the split half of mineralized interval (60.7 ft @ 6.9% Cu) from hole 20–73 was missing and most of the interval (90 ft @ 4.48% Cu) from 22–73 was missing. The half core initially retained in the boxes was likely subsequently sent for metallurgical test work. Nonetheless, a total of 14 samples of the remaining half of the split core that approximated or equalled the original sample intervals, were collected and analyzed by ASARCO. The results of this exercise are summarized in Table 14.1.

Hole #	Original Interval / Cu%	New Interval / Cu%
	418 – 427 / 0.70	418 – 427 / 0.454
14-72	427 – 437 / 1.60	427 – 437 / 2.16
14-72	437 – 447 / 0.20	437 – 447 / 0.149
	447 – 460 / 0.46	447 – 460 / 0.068
	311 – 321 / 1.16	311 – 321 / 0.91
15 – 72	321 – 336.5 / 1.68	321 – 336.5 / 1.69
	459.5 – 470 / 0.54	459.5 – 470 / 0.613
17 – 72	175 – 185 / 0.62	175 – 185 / 0.155
	205 – 209 / 0.44	205 – 209 / 0.06
	209 – 212.5 / 11.70*	209 – 210 / 9.26*
22 – 73	212.5 – 218 / 2.00*	210.0 – 218 / 1.17*
22 - 13	218 – 224 / 1.35	218 – 224 / 1.22
	224 – 228 / 2.17	224 – 228 / 2.17
	290 - 295 / 4.50*	292 – 295 / 0.067*

#### Table 14.1: Data Verification

\* Original and re-sampled intervals not exactly the same.

Comparing the 11 intervals that are exactly the same, the range of ratios between new and original vary from 0.14 to 1.35. There are three abnormally low values that are difficult to account for. The copper mineralization is disseminated, so a sampling bias from uneven distribution of the mineralization is not anticipated. If the three abnormally low values in this group are ignored, the average ratio between new and original copper content is 0.94. Given the poor state of the core, the reliability of this program is uncertain.

ASARCO also drilled a series of five confirmation holes in 2001 to confirm the grades and intervals of the main zone of the deposit (Simpson, 2001). Some of the holes specifically targeted the Lower Zone below the main zone, which was not well delineated by the former drilling. One hole (2001-12) is regarded as a direct twin of hole A101-74. The collar of the old hole could not be found, but 2001-14 was located 2.0 m from the old hole, based on surveyed collar coordinates. Hole 2001-13 is regarded as a partial twin of hole K09-73 because the old hole was an angle hole while 2001-14 was vertical. For the other three holes, situated in other strategic parts of the deposit, the expected grade and thickness were determined from a weighted average of the results from the three closest holes.

The results for copper from the confirmation drilling are tabulated below in Table 14.2 and Table 14.3 and the gold results are included in Table 14.4 and Table 14.5.

	Grade		Thickness		
Hole #	Actual %	Expected %	Actual ft	Expected ft	Comments
2001-08	1.05	1.68	135	145	
2001-09	1.697	1.43	128	122	
2001-12	1.03	0.74	95	94	Twin of hole A101-74
	0.54	n/a	10	n/a	Lower main zone not in adjacent holes
2001-13	1.89	1.84	181	162	Expected results from hole K09-73
	1.89	1.77	177	150	Expected results from five adjacent holes
2001-14	2.75	3.16	88	64	

Table 14.2: Confirmation Drilling Results, Main Zone, Cu

Table 14.3: Confirmation	Drillina	Results.	Lower Zone. Cu

	Grade		Thickness		
Hole #	Actual %	Expected %	Actual ft	Expected ft	Comments
2001-8	1.27	0.55	52.5	35.5	
2001-9	n/a	2.05	n/a	18	No lower zone in 2001-9
2001-12	0.57	0.50	35	50	
2001-13	n/a	n/a	n/a	n/a	No lower zone
2001-14	n/a	n/a	n/a	n/a	No lower zone

	Grade		Thickness		
Hole #	Actual g/T	Expected g/T	Actual ft		Comments
2001-08	0.27	0.22	135	145	
2001-09	0.65	0.25	128	122	
2001-12	0.10	0.03	95	94	Twin of hole A101-74
	0.07	n/a	10	n/a	Lower main zone not in adjacent holes
2001-13	0.45	0.34	181	162	Expected results from hole K09-73
	0.45	0.40	181	150	Expected results from 5 adjacent holes
2001-14	1.82	0.93	88	64	

#### Table 14.4: Confirmation Drilling Results, Main Zone, Au



	Grade		Thickness		
Hole #	Actual g/T	Expected g/T	Actual ft	Expected ft	Comments
2001-8	0.31	0.10	52.5	35.5	Au only found in one of closest holes, not three
2001-9	n/a	0.53	n/a	18	No lower zone in 2001-9
2001-12	0.21	0.03	35	50	
2001-13	n/a	n/a	n/a	n/a	No lower zone
2001-14	n/a	n/a	n/a	n/a	No lower zone

The confirmation drilling shows that the grade and thickness of both the copper and gold in the mineralized zones are generally higher than indicated by the original drilling results. The average uplift, for all of the intersections for Cu grade is 25% higher, Au grade is 300% higher and the thickness is 18% higher. In particular, the thickness of the main zone is also 38% higher in hole 2001-14 than predicted from adjacent holes and the gold grade is twice as high as adjacent holes and 3.85 times higher than the 0.48 g/t deposit average.

Side by side, sample by sample comparison of the results from 2001-12 and A101-74 (determined to be only 2 m apart) shows some inconsistencies, particularly at the top of the main zone (Figure 14.1). A difference in sample interval (0.6 m to 1.5 m for new hole 2001-12 compared to 3.0 m for old hole A101-74) would account for this difference due to the averaging effect of the larger interval. When the 2001-12 results are composited on similar intervals as the 1974 samples, or bench composites are calculated as shown in Figure 14.2 the differences are less pronounced.

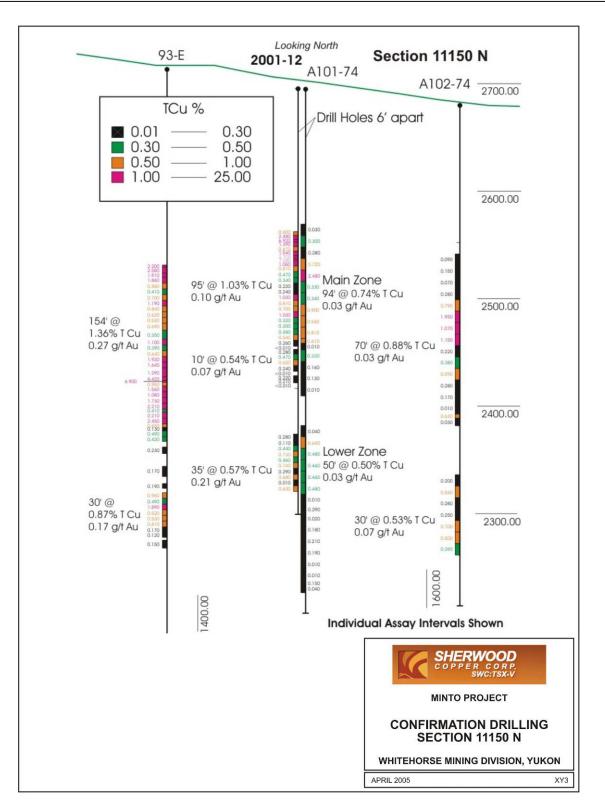


Figure 14.1: Confirmation Drilling Section 11150 N

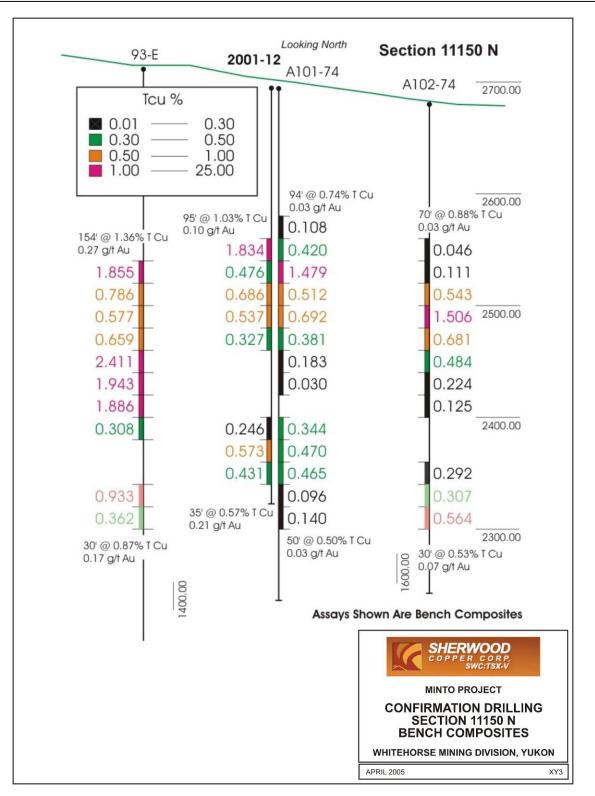


Figure 14.2: Confirmation Drilling Section 11150 N Bench Composites

### 14.2 MintoEx 2005 and 2006

The MintoEx database was validated by a 10% check of the collar, assay and survey data. Of the 218 holes in the project database, 24 were selected at random in the area of the resource estimation boundaries. Only minor errors were detected and the database was found to be of good quality and accepted for resource estimation purposes.

In accordance with NI43-101 guidelines, MintoEx commissioned SRK to provide an independent verification of exploration data for Area 2. Data verification consisted of a site visit, examination of drill hole collars, examination of selected drill core and a check of the assay database against original laboratory certificates. Andrew Ham of SRK visited the Minto property between the 24th and 26th of January, 2007. Dr. Ham was accompanied to site by Brad Mercer.

Dr. Ham personally inspected drill core storage facilities, drill collars and selected drill core from mineralized zones within the Area 2 resource. Of the 79 drill holes in the 2006 Area 2 database, eleven collars (13%) were selected at random in the area of the resource estimation boundaries and were checked by a handheld Garmin GPS. Table 14.6 compares the results of the collar locations as documented by SRK and Sherwood Copper. MintoEx sited the drill hole collars by differential GPS, which were later surveyed by the Minto Mine Survey team. The recorded values show good agreement and differences lie within the error of the handheld GPS.

	C	Collars – SRK	Handheld GP	S	Collars	– Minto Mine	Survey
Hole ID	Easting	Northing	Elevation	Accuracy	Easting	Northing	Elevation
06SW068	384948	6944463	860	7	384949	6944461	854
06SW095	384914	6944522	858	7	384917	6944523	851
06SW114	384975	6944503	851	5	384979	6944499	844
06SW115	384854	6944467	872	3	384855	6944465	865
06SW116	384878	6944521	864	6	384880	6944519	857
06SW122	387938	6944379	870	3	384940	6944378	861
06SW133	385037	6944601	829	3	385039	6944600	821
06SW151	384980	6944622	834	3	384981	6944621	825
06SW153	384918	6944603	845	5	384919	6944600	835
06SW168	385081	6944561	827	3	385083	6944558	818

Table 14.6: Comparison of Selected Drill Hole Collars by SRK and MintoEx.

During the site visit, SRK inspected mineralized domains from four drill holes to verify sulphide mineralization and ascertain the nature of the mineralized contacts. Copper mineralization is limited to strongly foliated domains (high strain zones) dominated by biotite, quartz, K-feldspar and magnetite (±hematite). The contacts between foliated high strain zones with unfoliated massive granitoids are very sharp. Mineralization abruptly terminates at this contact and does not continue into unfoliated intervals. It is important to note that not all foliated domains contain significant copper mineralization, but where mineralization does occur, it is within a well foliated domain.

Within foliated domains, there is evidence of up to two episodes of folding. There appears to be some correlation of higher grade mineralization with folding, with chalcopyrite replacing folded biotite foliations (Figure 14.3). This would suggest that mineralization post-dates or is synchronous with periods of folding. However, the number of drill holes examined was not representative to confirm the consistency of this relationship. SRK recommends that this relationship be followed up in future geological studies of the deposit.

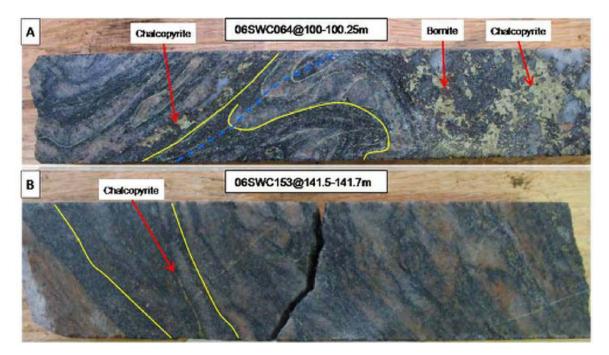


Figure 14.3: Photographs illustrating Coarser, Higher Grade Mineralization in Folded Domains (a) versus Disseminated Lower Grade Mineralization in Foliated Domains that is Aligned Sub-parallel to the Matrix Foliation (Yellow Line). Axial Plane Foliation (Dashed Blue) in (a) Folds an Early Stage Foliation (Yellow Line), But Also Appears to Have Been Overprinted By Further Folding

### 14.3 MintoEx 2007

The assay database was validated by a check of the original assay certificates against those recorded assays within the drill hole database. Out of the 104 laboratory certificates, 24 original assay certificates were randomly selected and checked by SRK, comprising approximately 23% of the assay database. Only minor errors were detected and the database was found to be of good quality and acceptable for resource estimation purposes. The database is continually checked for errors by MintoEx as part of their ongoing quality assurance and quality control program.

Hole 07SWC254 was drilled adjacent to hole A11-72 (dip -45°, azimuth 105°), approximately 9 m south at the 830-860 m elevation, intersecting similar grades and mineralization contained within solid RT1001 (LGGC, 2008) and approximately 65 m southeast, at a deeper elevation, within RT1003. Hole 07SWC251 and A11-72 were approximately 28m apart at 805-820m elevation,

within solid RT1003. A comparison showing similar lithologies and grades is shown below in Table 14.7.

Solid	Hole	Interval	Lithology	Copper	Distance Apart	Hole	Interval	Lithology	Copper
RT1001	07SWC254	27.2 to 61.1 (33.9m)	Foliated Granodiorite with 10% Equigranular Granodiorite	0.9%	9m	A11- 72	26.5-91.4 (64.9m) interval is 49.4m vertical (A11-72 drilled at -45 deg)	Foliated Granodiorite, 6% Quartz Feldspar Porphyry, 1% Andesite Dyke	1.1%
RT1003	07SWC251	72.1- 87.2 (15.1m)	Foliated Granodiorite, 50% Equigranular Granodiorite	1.3%	28m	A11-	104.2-114.0 (9.8m) <i>interval</i> <i>is 7.4m</i>	68% Fault, 25%Foliated Granodiorite,	0.5%
RT1003	07SWC254	82.9- 95.4 (12.5m)	Foliated Granodiorite with 30% Equigranular Granodiorite	0.4%	65m	72	vertical (A11- 72 drilled at - 45deg)	7% Equigranular Granodiorite	0.376

Table 14.7: Comparison of Lithology and Copper Grade

Comparing the drilling shows the grade and thickness of the copper varies; however, the subsequent 2007 drilling shows the zones, although variable, are continuous. The orientation of A11-72 is not ideal and cuts obliquely through the zone, both horizontally and vertically. It is speculated some differences in the holes can be attributed to the fact that A11-72 was one of the earliest holes drilled on the Minto property. Since then, a greater understanding of the geology and mineralization has been attained, leading to better drill hole placement, sampling (shorter intervals) and improved logging.

# **15 Adjacent Properties**

No references to any adjacent properties, other than general regional geology comments, are used in this report. The mineral resource estimation, mineral reserve estimation and exploration targets described in this report are based solely on work done on the Minto Property and are not influenced in any way by any potential mineralization on adjacent properties.

# **16 Mineral Processing and Metallurgical Testing**

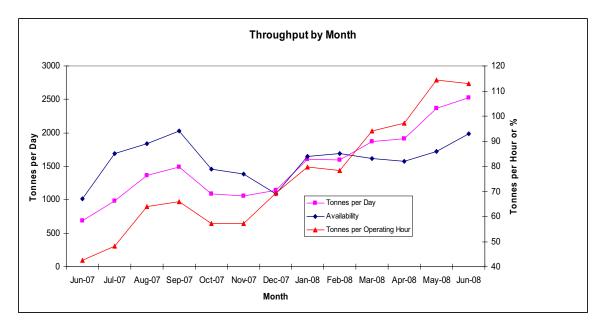
### 16.1 Mill Capacity

The mine production schedule was aligned with the anticipated mill processing capacity estimated to be 2,900 tonnes per day for July through December of 2008, 3,200 tpd for years 2009 to 2011 and then increasing to 3,500 tpd in year 2012 with the introduction of feed from Area 2.

### 16.2 Introduction

Production commenced in June of 2007 at a rated tonnage of 1,563 tonnes per day. The plant was expanded in December of 2007 to a rated tonnage of 2,400 tonnes per day with the addition of flotation cells, two additional tailings filter presses and one additional ball mill.

Mill throughput and operating availability has been increasing steadily with time. In May and June of 2008, average availabilities approached 90% and in June throughput exceeded design capacity. The average tonnes milled per operating hour have increased to 113 in May and June 2008.



#### Figure 16.1: Production by Month

Metallurgical performance has been consistent over the last four months. Concentrate grades have averaged over 40% copper with recoveries averaging 93.6%. Silver recoveries have averaged 86.9% in the copper concentrate. Gold recovery averaged 80.8% in the first quarter from a head grade of 1.79 g/t Au. As gold is not assayed on site, these are the most recent figures available.

Phase three expansion is in progress to increase throughput to 3200 tonnes per day. The current bottle neck is the SAG mill. The proposed plan to address the throughput increase is discussed further and in more detail in the following pages.

#### 16.2.1 Primary Crusher

The primary crusher was supplied by Westpro. There were significant issues with availability and maintenance especially during the winter months. It is currently down for rebuild and a portable crusher is on site while the rebuild is being completed. Capital has been allocated to redesign the crusher to minimize some of these issues and this work is expected to be completed in the third quarter of 2008.

Crusher performance has a marked effect on the SAG throughput and a fines content of 30-35% is needed to maximize tonnage. It is particularly noticeable that, when the crusher is down for maintenance, that the feed becomes noticeably coarser within 30 minutes. Compounding the problem is the fact that there is only one slot feeder under the coarse ore stock pile eliminating any chance of mixing the feed. As a result the crusher must run 24 hours per day, while the design criterion was for one 12 hour shift per day.

#### 16.2.2 Grinding Circuit

The grinding circuit comprises the SAG mill (16.5'D x5.0'L), and two grate discharge ball mills (10.5'Dx12'L) in parallel. All three mills have 900 HP motors. At the current operating tonnage of 113 tonnes per hour, the ball mills are drawing approximately 72% of installed horsepower.

The limiting factor in increasing tonnage is the SAG mill. The SAG has a reverse spiral and a trommel screen with 5/8" openings. It is proposed to increase the trommel openings in two stages, first to  $\frac{3}{4}$ ", then to 1.0".

To compensate for the coarser material feeding the ball mills, the steel charge will be 50% 3" balls and 50% 2" balls instead of the current 2" balls. The power draw on the mills will also be increased to closer to maximum available power draw of 900HP.

The mill has on occasion processed in excess of 3,400 tonnes per day with the grind being in the order of 180 microns, so at full horse power, there is a reasonably good expectation of success.

The ball mills do not have trommel or magnets on the discharge, creating problems with tramp steel re-circulating in the discharge stream. Magnets have been ordered and will be installed in the 4<sup>th</sup> quarter 2008. This will reduce the level of maintenance on the cyclone feed pumps, cyclones and associated piping and improve operating times over the medium term.

#### 16.2.3 Flotation

The flotation circuit consists of three 1400 cubic foot rougher flotation cells, four 300 cubic foot first cleaner cells, six 100 cubic foot cells second cleaners, and five 500 cubic foot scavenger cells. All flotation cells were supplied by Westpro.

The cells have been problematic since start up. The 500  $\text{ft}^3$  scavenger cells failed in the first month or so and is probably the reason the copper recoveries were low. The 1400 cubic foot cells and 300 cubic foot cells were installed in December 2008 and will all require modifications. Two of the rougher cells have failed to date. The sole control is reagent addition. Air control is not possible and level control in the scavenger circuit is not possible as the control valve is always 100% open.

Despite these shortcomings, metallurgical results are excellent. Recoveries of copper are in excess of 93% recovery at concentrate grades exceeding 40% copper.

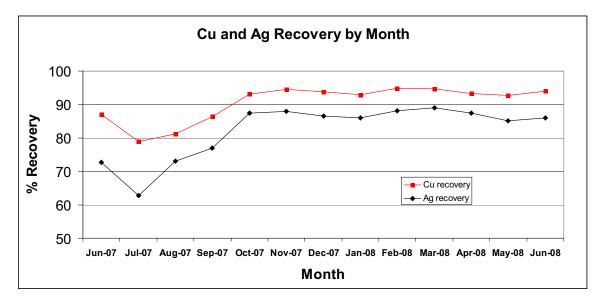
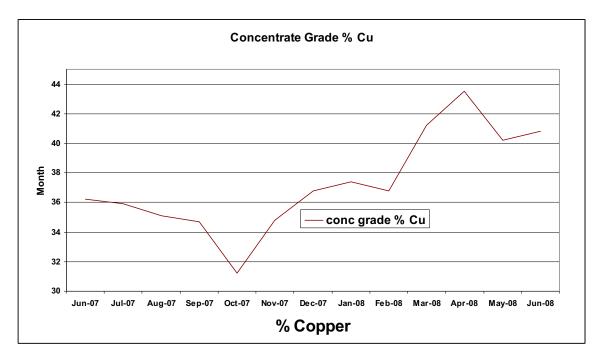


Figure 16.2: Monthly Copper and Silver Recovery



#### Figure 16.3: Monthly Concentrate Grade

As can be seen from Figure 16.3, concentrate grades have been steadily increasing with time as the flotation circuit was optimized as various circuit configurations were tested. Reagent scheme is simple, Potassium Amyl Xanthate as collector, MIBC as frother and natural pH. There is no apparent correlation between copper head grades and concentrate grades in the range 2-4% copper. For planning purposes, a target of 40% copper seems a reasonable goal given the actual mill performance to date.

#### 16.2.4 Dewatering

The concentrate thickener is a 20 foot diameter Westpro model and is undersized for the phase 3 production forecast. Capital has been approved to install an Outotec 9.4 meter diameter Supaflo high rate thickener in the fourth quarter.

The concentrate is dewatered using a Larox ceramic filter. Depending on slurry density, dewatering rate varies from 25-30 tonnes per hour with a moisture content of 7-8 percent, more than sufficient to accommodate the expansion to 3,200 tpd.

Concentrate storage shed on site is capable of holding 15,000 tonnes of concentrate. Shipping from site stops in the fourth quarter, while the Yukon River freezes up and the ice bridge is built across the Yukon River and in the second quarter for spring break-up. Both periods last 6 to 8 weeks.

Concentrate is trucked to Skagway for shipping overseas to customers.

#### 16.2.5 Filtered Tailings

The tailings are thickened to 58% solids in a 40 foot diameter thickener manufactured by Westpro and pumped to a stock tank for temporary storage. Five Lasta 1500x1500 pressure filters are used to dewater the tailings. The filters are fully automatic and produce an average of 6.5 tonnes tailings per cycle at 16% moisture. Cycle times are between 8.5 and 9 minutes, giving each filter a capacity in excess of 1,000 tonnes per day.

One of the five filters is currently set up as an alternate concentrate filter to the Larox ceramic filter, but capital has been approved to re-convert back to a tailings filter.

Filtered tails are conveyed to a stock pile and trucked to the dry stacked tailings area.

The plant operates exceptionally well, a credit to the operating personnel, and should easily handle Phase 3 tonnage.

## 17 Mineral Resource and Mineral Reserve Estimates

LGGC was contracted by MintoEx to estimate updated mineral resource estimations for the Minto Mine deposit and Area 2 and provide new estimates for Area 118 and Ridgetop of the Minto Project, located in Yukon. The estimates included drill holes completed by the end of December 2007.

Ali Shahkar, P.Eng., Principal Consultant with LGGC, completed the mineral resource estimation update for the Minto Mine deposit in December of 2007.

Susan Lomas, P.Geo., Principal Consultant with LGGC completed the estimation work for Ridgetop, Area 2 and Area 118 in June of 2007.

### **17.1 Historical Estimates**

In February 2006 LGGC completed the first mineral resource estimation for Area 2 of the Minto Project. Ali Shahkar, P.Eng., Principal Consultant with LGGC, completed the work. Andrew Ham, MAusIMM, and Marek Nowak, P.Eng., of SRK Consulting, both reviewed the estimation and found it reasonable for inclusion in the SRK pre-feasibility study. SRK issued a 43-101 Technical Report documenting the resource estimation and the pre-feasibility study results in their report: "*Area 2 Pre-feasibility Study, Minto Mine, Yukon, November 30, 2007*".

Table 17.1 below summarizes the results of the historical mineral resource estimates completed to date on the Minto Mine Main Deposit and Table 17.2 summarizes the historical estimates completed for the Area 2 deposit. The results for the most recent resource estimates are included in the tables for comparative purposes. All the estimates are reasonably close in the tonnage and grade values reported for the Minto Mine Main Deposit. The tonnages for Area 2 have increased from 7.6 Mt to 11.3 Mt in the measured and indicated resource categories, 1.4 to 3.5 Mt in the inferred resource category. This is largely due to new drilling, confirming the presence of mineralization further to the south than was previously modeled. The most recent resource estimate results quoted for the Minto Mine deposit (December 2007) are exclude material mined up to the 21st of December, 2007.

The estimates completed in July 2005, January 2006 and June 2006 were done by Gary Giroux, P.Eng., of Giroux Consulting.

The July 2005 estimate is discussed in the 43-101 Technical Report, "*Technical Report on the Minto Project, Whitehorse Mining Division, Yukon Territory for Sherwood Mining Corporation, July 15, 2005*".

Giroux completed an interim model in January 2006 for the Minto Main deposit based on the data from 39 new drill holes that were drilled in 2005. MintoEx completed a further 19 new drill holes in the spring of 2006 and an updated estimate was completed for the Minto Mine Main Deposit in June

2006 by Giroux. This estimate was used to support a feasibility study on the deposit that was completed by Hatch and is documented in "*Technical Report (NI 43-101) for the Minto Project, August 2006*".

In February 2006, LGGC completed the first mineral resource estimation for Area 2 of the Minto Project. Ali Shahkar, P.Eng., Principal Consultant with LGGC, completed the work. Andrew Ham, MAusIMM, and Marek Nowak, P.Eng., of SRK Consulting, both reviewed the estimation and found it reasonable for inclusion in the SRK pre-feasibility study. SRK issued a 43-101 Technical Report documenting the resource estimation and the pre-feasibility study results in their report: "*Area 2 Pre-feasibility Study, Minto Mine, Yukon, November 30, 2007*".

# Table 17.1: Summary of Minto Deposit Mineral Resources (Inclusive of Mineral Reserves)

Resource Model	Category	Cutoff	Tonnes>Cutoff	G	rade>Cut	off
Min	to Mine	(Cu %)	(tonnes)	Cu (%)	Au (g/t)	Ag (g/t)
Dec 2007 Model						
Main Zone	Measured plus Indicated	0.50	7,220,000	1.93	0.70	7.96
Other Zones		0.50	750,000	0.91	0.28	4.64
Total		0.50	7,970,000	1.84	0.66	7.65
June 2006 Model			.,,			
Main Zone (80) Only	Measured plus Indicated	0.50	8,020,000	1.89	0.66	7.73
Other zones (40,5,2)	F	0.50	1,040,000	0.93	0.31	4.25
Total		0.50	9,060,000	1.78	0.62	7.33
Jan 2006 Model						
Main Zone (80) Only	Measured plus Indicated	0.50	7,790,000	1.90	0.60	7.90
Other zones (40,5,2)		0.50	720,000	0.90	0.28	4.02
Total		0.50	8,510,000	1.81	0.57	7.57
July 2005 Model						
Total	Measured plus Indicated	0.50	8,340,000	1.83	0.55	7.98
Dec 2007 Model						
Main Zone	Inferred	0.50	-	-	-	-
Other Zones		0.50	60,000	0.73	0.15	3.41
Total		0.50	60,000	0.73	0.15	3.41
June 2006 Model						
Main Zone (80) Only	Inferred	0.50	-	-	-	-
Other zones (40,5,2)		0.50	90,000	0.81	0.21	3.73
Total		0.50	90,000	0.81	0.21	3.73
Jan 2006 Model						
Main Zone (80) Only	Inferred	0.50	30,000	1.26	0.83	6.94
Other zones (40,5,2)		0.50	550,000	0.97	0.28	4.92
Total		0.50	580,000	0.98	0.30	5.03
July 2005 Model						
Total	Inferred	0.50	700,000	1.41	0.45	6.02

Resource Model	Category	Cutoff	Tonnes>Cutoff	Grade>Cutoff		
		(Cu %)	(tonnes)	Cu	Au	Ag
Area 2		(00 /0)	(tonnes)	(%)	(g/t)	(g/t)
June 2008 Model						
Total	Measured plus Indicated	0.50	11,310,000	1.13	0.40	3.79
Feb 2006 Model						
Total	Measured plus Indicated	0.50	7,600,000	1.26	0.48	4.30
June 2008 Model						
Total	Inferred	0.50	3,530,000	0.77	0.25	2.54
Feb 2006 Model						
Total	Inferred	0.50	1,380,000	1.01	0.33	1.93

### 17.2 Minto Mine Main Deposit Resource Estimation Methodology

In December of 2007 Lions Gate Geological Consulting Inc. (LGGC) was commissioned by MintoEx to provide an update to the 2006 mineral resource estimate for the Minto Mine Main deposit, originally completed by Gary Giroux and SWC. This updated estimate included the new data from the 2007 drilling program and accounted for the material removed by mining activity in 2007. LGGC was provided with the new drill hole data in the resource area and a 3-D pit surface representing the limits of the open-pit at the Minto Mine as of December 21<sup>st</sup>, 2007.

#### 17.2.1 Drill Hole Data

LGGC used the same database that was used for the April 2006 resource estimation and added the 11 new drill holes that were completed in 2007. A list of the new drill holes added to the April 2006 resource estimates is included as Table 17.3.

HOLE-ID	LOCATION X (m)	LOCATION Y (m)	LOCATION Z (m)	AZIMUTH (deg)	DIP (deg)	LENGTH (m)	SIZE	HOLE_TYPE
07SWC169	384630.44	6944924.04	812.26	0	-90	99.36	NQ2	METALLURGIC
07SWC170	384640.00	6944945.62	812.00	0	-90	51.21	HQ	METALLURGIC
07SWC171	384673.40	6944710.00	827.37	0	-90	426.42	NQ2	EXPLORATION
07SWC172	384680.18	6944924.66	808.55	270	-70	96.93	HQ	METALLURGIC
07SWC173	384685.18	6944910.32	809.05	270	-80	89.31	HQ	METALLURGIC
07SWC174	384624.71	6945070.56	784.31	0	-90	362.41	NQ2	EXPLORATION
07SWC175	384683.62	6944955.43	807.78	269.7	-70	106.38	HQ	METALLURGIC
07SWC176	384977.76	6944990.85	786.23	0	-90	379.78	NQ2	EXPLORATION
07SWC177	384720.02	6944849.41	814.09	0	-90	371.55	NQ2	EXPLORATION
07SWC178	384830.54	6944650.15	836.17	0	-90	359.36	NQ2	RESOURCE
07SWC179	384733.97	6944794.52	818.26	0	-90	359.36	NQ2	EXPLORATION

Table 17.3: 2007 Drill Holes in the Minto Mine Deposit

Figure 17.1 shows the location of the drill holes in a 3-D view (looking down to the NW). For reference, solids for the DEF fault (in blue) and Main Zone (in orange) are displayed together with the pit surface (in transparent grey). Six of the new drill holes intersect the projection of the mineralization at the Main Zone.

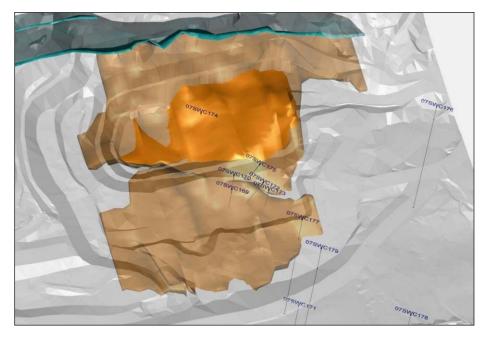


Figure 17.1: Minto Pit (Transparent Grey), Main Zone (Orange), DEF Fault (Blue), and the 2007 Drill Holes in a 3-D View Looking Down to the NW

All of the Main Zone material from drill hole 07SWC174 was consumed for metallurgical testing and no samples were sent for analysis that are appropriate for inclusion in a resource estimate. The Main Zone intervals for the remaining 5 drill holes are listed in Table 17.4.

HOLE-ID	From (m)	To (m)	Interval (m)	Code	Zone
07SWC169	70.03	92.34	22.31	8	Main Zone
07SWC172	61.87	91.56	29.69	8	Main Zone
07SWC173	63.17	80.32	17.15	8	Main Zone
07SWC175	61.42	80.87	19.45	8	Main Zone
07SWC177	73.35	77.30	3.95	8	Main Zone

 Table 17.4: Main Zone Intervals in 2007 Drill Holes

These intervals were selected based on the same criteria as the previous rounds of modeling and resource estimation. The zone selections correspond to the main host lithology for copper mineralization at the Minto project, which is the foliated granodiorite (fG) horizon. As in the past, it was found that this selection criterion corresponds well with the grades for copper, gold and silver and serves well as a hard boundary to the mineralization.

These intervals were then compared to the solid for the Main Zone that was used in the previous estimate to make any necessary adjustments. In all 5 cases it was observed that the new drill hole

intervals matched well with the existing Main Zone interpretation; therefore, no adjustments were made to the Main Zone solid boundaries.

#### 17.2.2 Capping

The new assay data was treated using the same capping limits used for the April 2006 resource model.

At a capping limit of 36.7% copper, 7.3 g/t gold and 95 g/t silver; only one assay value, from the 2007 assay data for Main Zone, was capped for gold (DDH 07SWC169).

#### 17.2.3 Compositing

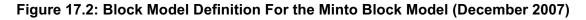
In all, 33 new composites were generated from the 2007 data. The same compositing methodology was used as in the April 2006 resource estimation.

Down-hole composites of 3 meters in length were created within the Main Zone intervals. Only one composite less than 1 meter was generated (hole 07SWC177) at 0.95 meters. The new composites were then added to the composite file used in the April 2006 resource estimation.

#### 17.2.4 Block Model Definition

The block model definition remains unchanged from the previous estimate and is shown in Figure 17.2: for reference. The blocks are 5 meter by 5 meter horizontally and 3 meters vertically in size.

e	384000	Rotation: 0						
Y:	6944400	Rotation is anti-clockwise around the						
Z:	1000	origin.						
The origin	is at the minimum X, min	imum Y, and maximum Z corner.						
		imum Y, and maximum Z corner.						
- Block size:								
The origin Block size: Column: Row:	s	Number of blocks						



#### 17.2.5 Bulk Density Values

The Main Zone bulk density block values remain the same values which were interpolated into the model using Inverse Distance Squared method (ID2) in 2006. For all other zones, LGGC assigned

the averaged density values for each of the zones based on the zone code and the oxidation state as listed in Table 17.5. The main reason for reassigning these values is that the original block model file (as provided by Gary Giroux) contained a number of blocks (within the Upper Zone and Zone 5) with bulk density values of zero. In the past, several different patches and default values have been used by different users to correct this error. For consistency, the values have now been reassigned to the values originally intended in the April 2006 model.

LGGC recommends that this newly assigned bulk density model be used for any future work, to avoid any inconstancies or potential errors.

		C	Dxides			Su	Iphides	
Zone	No.	BD Avg. (g/cm <sup>3</sup> )	BD Low (g/cm <sup>3</sup> )	BD High (g/cm <sup>3</sup> )	No. BD Avg. (g/cm <sup>3</sup> )		BD Low (g/cm <sup>3</sup> )	BD High (g/cm <sup>3</sup> )
Main Zone (8)	57	2.64	2.54	3.06	343	2.79	2.45	4.15
Upper Zone (4)	18	2.63	2.26	2.71	8	2.82	2.64	3.2
Lower Zone (2)					15	2.68	2.62	2.71
Zone 5					6	2.77	2.69	2.94
Zone 6	2	2.59	2.54	2.63	2	2.54	2.5	2.58
Waste (99)	104	2.65	2.44	3.78	206	2.73	2.4	3.97

Table 17.5: Averaged Bulk Density Values by Zone and Oxidation State (April 2006)

### 17.2.6 Variography

Only the blocks within the Main Zone were re-interpolated in 2007 by LGGC.

LGGC reviewed the semi-variogram parameters that were used for the Main Zone grade interpolation runs in the April 2006 model and made only one change to that the z axis (vertical) range for the first pass sample search ellipse. This was changed from 4 m to 10 m to better reflect the variogram ranges. The 4 m range was used in the April 2007 resource estimation because the software being used by Giroux could not restrict the number of composites selected from a single drill hole. In order to artificially restrict the maximum samples from a single drill hole to approximately 3 samples, Giroux was forced to severely restrict the vertical or z range of the sample search ellipse. LGGC used software that can restrict the number of samples to no more than 3 composites from a single drill hole, so this allowed for extending the vertical range to improve the sample search for the first pass of the ordinary kriging (KG) run, where over 90% of the Main Zone blocks are interpolated for copper.

LGGC used ordinary kriging in three passes to interpolate the grades for copper and silver and four interpolation passes for the gold grades in the Main Zone block model.

Other than the changes to the interpolation parameters discussed above, LGGC applied the same sample search and interpolation parameters that were used for the April 2006 resource estimation. The following parameters were outlined by Giroux in the report *"Technical Report (NI 43-101) for the Minto Project- August 2006"* (filed on SEDAR) and are quoted below:

Kriging was completed in a series of passes for each variable within each mineralized zone. Pass 1 used a search ellipse with dimensions equal to ¼ of the semivariogram ranges in the 3 principal directions. If a minimum 4 composites were not found within this search ellipse, centered on the block, then the ellipse was expanded to ½ the ranges for Pass 2. For blocks not estimated in Pass 2, the search ellipse was expanded to the full range in Pass 3. In some cases, a fourth pass using the maximum range for copper was required to assure all blocks estimated for copper also had a gold and silver grade estimated. Blocks not estimated in pass 4 were left un-estimated. In all cases, if more than 16 composites were found the closest 16 to the block centroid were used

#### **17.2.7 Search Parameters**

In all passes a maximum of 16 and a minimum of 4 composites and a maximum of three composites from a single drill hole were used to interpolate the grade elements into a block. The direction and ranges for the search ellipse used in each pass are listed in Table 17.6.

Pass	Direction	Range (m)	Direction	Range (m)	Direction	Range (m)
Сорре	er Main Zone (Co	de 8)				
1	Az. 165	62.5	Az. 75	27.5	Az 0	10
	Dip 0		Dip 0		Dip -90	
2	Az. 165	125	Az. 75	55	Az 0	30
	Dip 0		Dip 0		Dip -90	
3	Az. 165	250	Az. 75	110	Az 0	60
	Dip 0		Dip 0		Dip -90	
Gold N	/lain Zone (Code	8)				
1	Az. 165	50	Az. 75	15	Az 0	10
	Dip 0		Dip 0		Dip -90	
2	Az. 165	100	Az. 75	30	Az 0	30
	Dip 0		Dip 0		Dip -90	
3	Az. 165	200	Az. 75	60	Az 0	60
	Dip 0		Dip 0		Dip -90	
4	Az. 165	400	Az. 75	200	Az 0	120
	Dip 0		Dip 0		Dip -90	
Silver	Main Zone (Code	e 8)				
1	Az. 16	65	Az. 75	27.5	Az 0	10
	Dip 0		Dip 0		Dip -90	
2	Az. 165	100	Az. 75	55	Az 0	25
	Dip 0		Dip 0		Dip -90	
3	Az. 165	200	Az. 75	110	Az 0	50
	Dip 0		Dip 0		Dip -90	

#### Table 17.6: Search Ellipse Definitions for December 2007 Main Zone Ordinary Kriging

#### 17.2.8 Validation

#### **Visual Inspection**

Block grades were visually inspected on sections and levels against the composited and raw assay data. This check determined that the interpolated grades in the block model appeared reasonable compared to the assay and composited data.

#### **Swath Plots**

A nearest neighbour (NN) model was also run for Cu and Au (the main contributors to the value of the blocks). This NN model was used for both global comparisons and swath plots to check the performance of the interpolation. A review of the swath plot found that the interpolated block grades for the kriged runs appeared reasonable when compared to the NN block grades. Swath plots for copper block grades along northings, eastings and elevations for the Main Zone (showing the number of blocks averaged, April 2006 KG, December 2007 KG and NN models for all Measured and Indicated blocks containing any portion of Main Zone) are included in Figure 17.3 and Figure 17.4 and Figure 17.5.

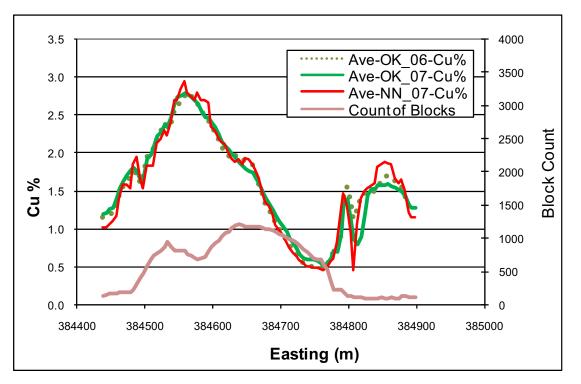


Figure 17.3: Swath Plot - Cu % - Eastings

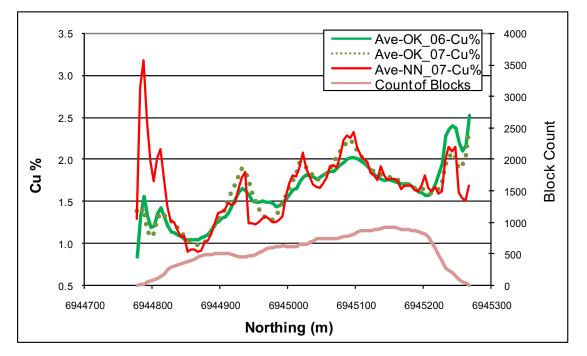


Figure 17.4: Swath Plot - Cu % - Northings

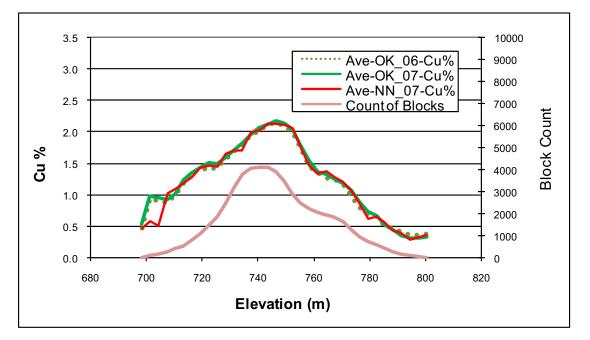


Figure 17.5: Swath Plot - Cu % - Elevations

Global comparison of the block grades in Main Zone (including all partial blocks) with the NN model and the composite grade averages (see Table 17.7) shows no signs of a global bias.

	ОК	NN	Composite	No. Blocks	Pass
Cu (%)	1.751	1.665	1.945	50,179	1
Cu (%)	1.072	-	-	5,071	2
Cu (%)	1.077	-	-	128	3
Cu (%)	1.69	1.665	1.945	55,378	All
Au (g/t)	0.92	0.583	0.814	17,300	1
Au (g/t)	0.535	-	-	29,452	2
Au (g/t)	0.226	-	-	7,670	3
Au (g/t)	0.185	-	-	956	4
Au (g/t)	0.61	0.583	0.814	55,378	All
Ag (g/t)	7.281	-	8.183	48,589	1
Ag (g/t)	3.722	-	-	6,554	2
Ag (g/t)	4.477	-	-	235	3
Ag (g/t)	6.848	-	8.183	55,378	All

Table 17.7: Global Bias Check of Ordinary Kriging (OK) against Nearest Neighbour(NN) and Composite Average Grades.

### 17.2.9 Resource Estimation Results for the Minto Mine Main Deposit

LGGC has tabulated the results for the December 2007 resource estimation for the Minto Main deposit. These results show the tabulated blocks for the material remaining in the zones and those materials mined up to December 21, 2007. The tonnages and grades for the Minto Main deposit are being declared using a copper grade cut-off at 0.50% (Table 17.8) but for sensitivity and comparative

purposes, the results are also reported at 0.20%, 0.30%, 0.40%, 0.75%, 1.0%, 1.5%, and 2.0% copper cut-offs (17.9 and 17. 15).

At a cut-off grade of 0.50% copper, the estimation shows an in-situ mineral resource for the Minto Main deposit of 7,970,000 tonnes with grades of 1.84 % copper, 0.66 g/t gold and 7.65 g/t silver in the measured and indicated categories, from all the zones in the Minto deposit. According to the same tabulation, as of December 21 2007, a total of 460,000 m<sup>3</sup> (or 1,240,000 tonnes) of material with averaged grades of 1.38 % copper, 0.36 g/t gold and 5.31 g/t silver, from the measured and indicated categories have been mined in the open pit. The model also estimates that 20,000 tonnes of inferred categorized material (almost all form the Upper Zone) have been mined. Whether this inferred material ultimately contributed to the mine production will need to be reconciled with the detailed mine records; but it could be a source of material not included in the Mineral Reserves due to its lower mineral resource classification.

Table 17.8: Mineral Resource Estimate Tabulation - Minto Mine Main Deposit - 0.50% Cu Cut-off

Below Dec 21 Pit Outline	Class	Zone	Volume (m <sup>3</sup> )	Tonnes	Cu (%)	Au (g/t)	Ag (g/t)
Measured Mineral Resources							
Main Zone	1	8	2,450,000	6,710,000	1.99	0.73	8.17
Zone 2, 4 and 5	1	2, 4, 5	30,000	80,000	0.81	0.34	3.98
All Zones	1	2, 4, 5, 8	2,480,000	6,790,000	1.98	0.72	8.12
Indicated Mineral Resources							
Main Zone	2	8	190,000	520,000	1.17	0.33	5.28
Zone 2, 4 and5	2	2, 4, 5	240,000	670,000	0.92	0.27	4.73
All Zones	2	2, 4, 5, 8	440,000	1,190,000	1.03	0.3	4.97
M + I Mineral Resources							
Main Zone	1+2	8	2,640,000	7,220,000	1.93	0.7	7.96
Zone 2, 4 and5	1+2	2, 4, 5	270,000	750,000	0.91	0.28	4.64
All Zones	1+2	2, 4, 5, 8	2,920,000	7,970,000	1.84	0.66	7.65
Inferred Mineral Resources							
Main Zone	3	8	0	0			
Zone 2, 4 and5	3	2, 4, 5	20,000	60,000	0.73	0.15	3.41
All Zones	3	2, 4, 5, 8	20,000	60,000	0.73	0.15	3.58

	Class	Zone	Volume (m <sup>3</sup> )	Tonnes	Cu (%)	Au (g/t)	Ag (g/t)
Measured Mineral Resources							
Main Zone	1	8	2,660,000	7,270,000	1.87	0.69	7.69
Zone 2, 4 and 5	1	2, 4, 5	70,000	190,000	0.53	0.20	2.95
All Zones	1	2, 4, 5, 8	2,730,000	7,460,000	1.83	0.67	7.56
Indicated Mineral Resources							
Main Zone	2	8	210,000	570,000	1.10	0.32	4.93
Zone 2, 4 and5	2	2, 4, 5	850,000	2,300,000	0.50	0.13	2.33
All Zones	2	2, 4, 5, 8	1,060,000	2,870,000	0.62	0.17	2.84
M + I Mineral Resources							
Main Zone	1+2	8	2,870,000	7,840,000	1.81	0.66	7.49
Zone 2, 4 and5	1+2	2, 4, 5	920,000	2,490,000	0.50	0.13	2.38
All Zones	1+2	2, 4, 5, 8	3,790,000	10,330,000	1.50	0.53	6.25
Inferred Mineral Resources							
Main Zone	3	8	-	-	-	-	-
Zone 2, 4 and5	3	2, 4, 5	120,000	320,000	0.40	0.09	1.55
All Zones	3	2, 4, 5, 8	120,000	320,000	0.40	0.09	1.55

#### Table 17.9: Mineral Resource Estimate Tabulation – Minto Mine Main Deposit – 0.20% Cu Cut-off

# Table 17.10: Mineral Resource Estimate Tabulation – Minto Mine Main Deposit –0.30% Cu Cut-off

	Class	Zone	Volume (m <sup>3</sup> )	Tonnes	Cu (%)	Au (g/t)	Ag (g/t)
Measured Mineral Resources							
Main Zone	1	8	2,640,000	7,210,000	1.88	0.69	7.74
Zone 2, 4 and 5	1	2, 4, 5	50,000	140,000	0.65	0.25	3.35
All Zones	1	2, 4, 5, 8	2,690,000	7,350,000	1.86	0.68	7.66
Indicated Mineral Resources							
Main Zone	2	8	210,000	560,000	1.11	0.32	4.98
Zone 2, 4 and5	2	2, 4, 5	590,000	1,600,000	0.60	0.16	2.84
All Zones	2	2, 4, 5, 8	800,000	2,160,000	0.73	0.20	3.40
M + I Mineral Resources							
Main Zone	1+2	8	2,850,000	7,770,000	1.83	0.66	7.54
Zone 2, 4 and 5	1+2	2, 4, 5	640,000	1,740,000	0.61	0.17	2.88
All Zones	1+2	2, 4, 5, 8	3,490,000	9,510,000	1.60	0.57	6.69
Inferred Mineral Resources							
Main Zone	3	8	0	0	0.00	0.00	0.00
Zone 2, 4 and5	3	2, 4, 5	70,000	190,000	0.49	0.11	2.06
All Zones	3	2, 4, 5, 8	70,000	190,000	0.49	0.11	2.06

# Table 17.11: Mineral Resource Estimation Tabulation – Minto Mine Main Deposit –0.40% Cu Cut-off

	Class	Zone	Volume (m <sup>3</sup> )	Tonnes	Cu (%)	Au g/t	Ag g/t
Measured Mineral Resources							
Main Zone	1	8	2,560,000	6,990,000	1.93	0.71	7.92
Zone 2, 4 and 5	1	2, 4, 5	40,000	110,000	0.72	0.28	3.59
All Zones	1	2, 4, 5, 8	2,600,000	7,100,000	1.91	0.70	7.85
Indicated Mineral Resources							
Main Zone	2	8	200,000	540,000	1.14	0.32	5.12
Zone 2, 4 and5	2	2, 4, 5	350,000	940,000	0.78	0.22	3.78
All Zones	2	2, 4, 5, 8	550,000	1,490,000	0.91	0.26	4.27
M + I Mineral Resources							
Main Zone	1+2	8	2,760,000	7,530,000	1.87	0.68	7.72
Zone 2, 4 and5	1+2	2, 4, 5	390,000	1,050,000	0.77	0.23	3.76
All Zones	1+2	2, 4, 5, 8	3,150,000	8,590,000	1.74	0.62	7.23
Inferred Mineral Resources							
Main Zone	3	8	0	0	0.00	0.00	0.00
Zone 2, 4 and5	3	2, 4, 5	40,000	110,000	0.60	0.13	2.75
All Zones	3	2, 4, 5, 8	40,000	110,000	0.60	0.13	2.75

# Table 17.12: Mineral Resource Estimate Tabulation – Minto Mine Main Deposit – 0.75% Cu Cut-off

	Class	Zone	Volume (m <sup>3</sup> )	Tonnes	Cu (%)	Au g/t	Ag g/t
Measured Mineral Resources							
Main Zone	1	8	2,100,000	5,780,000	2.21	0.81	9.03
Zone 2, 4 and 5	1	2, 4, 5	10,000	40,000	1.09	0.54	6.65
All Zones	1	2, 4, 5, 8	2,110,000	5,810,000	2.20	0.81	9.01
Indicated Mineral Resources							
Main Zone	2	8	160,000	430,000	1.28	0.34	5.49
Zone 2, 4 and5	2	2, 4, 5	120,000	340,000	1.22	0.41	6.91
All Zones	2	2, 4, 5, 8	280,000	770,000	1.26	0.37	6.12
M + I Mineral Resources							
Main Zone	1+2	8	2,260,000	6,210,000	2.15	0.78	8.78
Zone 2, 4 and5	1+2	2, 4, 5	140,000	380,000	1.21	0.42	6.89
All Zones	1+2	2, 4, 5, 8	2,400,000	6,590,000	2.09	0.76	8.67
Inferred Mineral Resources							
Main Zone	3	8	0	0	0.00	0.00	0.00
Zone 2, 4 and5	3	2, 4, 5	10,000	20,000	1.16	0.25	6.19
All Zones	3	2, 4, 5, 8	10,000	20,000	1.16	0.25	6.19

Below Dec 21 Pit Outline	Class	Zone	Volume (m <sup>3</sup> )	Tonnes	Cu (%)	Au (g/t)	Ag (g/t)
Measured Mineral Resources							
Main Zone	1	8	1,762,00 0	4,880,000	2.46	0.90	10.09
Zone 2, 4 and 5	1	2, 4, 5	0	10,000	1.44	1.10	12.61
All Zones	1	2, 4, 5, 8	1,770,00 0	4,890,000	2.46	0.90	10.10
Indicated Mineral Resources							
Main Zone	2	8	110,000	310,000	1.44	0.38	5.94
Zone 2, 4 and5	2	2, 4, 5	70,000	190,000	1.52	0.54	8.98
All Zones	2	2, 4, 5, 8	180,000	500,000	1.47	0.44	7.11
M + I Mineral Resources							
Main Zone	1+2	8	1,880,00 0	5,180,000	2.40	0.87	9.84
Zone 2, 4 and5	1+2	2, 4, 5	70,000	210,000	1.51	0.57	9.21
All Zones	1+2	2, 4, 5, 8	1,950,00 0	5,390,000	2.37	0.86	9.82
Inferred Mineral Resources							
Main Zone	3	8	-	-			
Zone 2, 4 and5	3	2, 4, 5	0	10,000	1.42	0.30	8.12
All Zones	3	2, 4, 5, 8	0	10,000	1.42	0.30	8.12

# Table 17.13: Mineral Resource Estimate Tabulation - Minto Mine Main Deposit - 1.00%Cu Cut-off

#### Table 17.14: Mineral Resource Estimate Tabulation - Minto Mine Main Deposit - 1.50% Cu Cut-off

Below Dec 21 Pit Outline	Class	Zone	Volume (m <sup>3)</sup>	Tonnes	Cu (%)	Au (g/t)	Ag (g/t)
Measured Mineral Resources							
Main Zone	1	8	2,450,000	6,710,000	1.99	0.73	8.17
Zone 2, 4 and 5	1	2, 4, 5	30,000	80,000	0.81	0.34	3.98
All Zones	1	2, 4, 5, 8	2,480,000	6,790,000	1.98	0.72	8.12
Indicated Mineral Resources							
Main Zone	2	8	190,000	520,000	1.17	0.33	5.28
Zone 2, 4 and5	2	2, 4, 5	240,000	670,000	0.92	0.27	4.73
All Zones	2	2, 4, 5, 8	440,000	1,190,000	1.03	0.3	4.97
M + I Mineral Resources							
Main Zone	1+2	8	2,640,000	7,220,000	1.93	0.7	7.96
Zone 2, 4 and 5	1+2	2, 4, 5	270,000	750,000	0.91	0.28	4.64
All Zones	1+2	2, 4, 5, 8	2,920,000	7,970,000	1.84	0.66	7.65
Inferred Mineral Resources							
Main Zone	3	8	0	0			
Zone 2, 4 and5	3	2, 4, 5	20,000	60,000	0.73	0.15	3.41
All Zones	3	2, 4, 5, 8	20,000	60,000	0.73	0.15	3.58

# Table 17.15: Mineral Resource Estimate Tabulation – Minto Mine Main Deposit –2.00% Cu Cut-off

	Class	Zone	Volume (m <sup>3</sup> )	Tonnes	Cu (%)	Au (g/t)	Ag (g/t)
Measured Mineral Resources							
Main Zone	1	8	950,000	2,670,000	3.28	1.21	13.83
Zone 2, 4 and 5	1	2, 4, 5	-	-	-	-	-
All Zones	1	2, 4, 5, 8	950,000	2,670,000	3.28	1.21	13.83
Indicated Mineral Resources							
Main Zone	2	8	10,000	30,000	2.30	0.68	9.30
Zone 2, 4 and5	2	2, 4, 5	10,000	20,000	2.91	1.11	18.46
All Zones	2	2, 4, 5, 8	20,000	50,000	2.53	0.84	12.74
M + I Mineral Resources							
Main Zone	1+2	8	960,000	2,700,000	3.26	1.20	13.78
Zone 2, 4 and5	1+2	2, 4, 5	10,000	20,000	2.91	1.11	18.46
All Zones	1+2	2, 4, 5, 8	960,000	2,720,000	3.26	1.20	13.82
Inferred Mineral Resources							
Main Zone	3	8					
Zone 2, 4 and5	3	2, 4, 5					
All Zones	3	2, 4, 5, 8					

### 17.3 Area 2 and Area 118 Resource Estimation Methodology

In March 2008, LGGC was commissioned by MintoEx to provide an update to the 2006 mineral resource estimate for Area 2, originally completed by Ali Shahkar, P.Eng., of LGGC. Andrew Ham,

MAusIMM, and Marek Nowak, P.Eng. of SRK Consulting both reviewed the estimation and found it reasonable for inclusion in the SRK pre-feasibility study. SRK issued a 43-101 Technical Report documenting the resource estimation and the pre-feasibility study results in their report, "*Area 2 Pre-feasibility Study, Minto Mine, Yukon, November 30, 2007*".

New drilling to the south west of Area 2 had identified a body of mineralization called Area 118 that now contained sufficient drilling data to support an initial mineral resource estimation.

Both of these estimates include geology and assay data from the 2007 drilling program.

#### 17.3.1 Geology Model

LGGC used the geological model from the 2006 resource estimation for the Area 2 deposit and updated it with the geology and assay data from 26 new drill holes completed in 2007. The same modelling philosophy was used where the foliated granodiorite (fG) units were constrained into domains. A lower grade limit of 0.20 % Cu was introduced into the geology model to eliminate large areas of waste that had been included in the previous estimate.

The geology data for Area 118 was reviewed on sections and plans. The same zones that are domained in Area 2 are found to continue into the Area 118 deposit and so the same modelling philosophy was used to domain the mineralization in Area 118. A zone of deformation (see

Figure 17.6) is found between the two deposits where the mineralization continues through this zone but there is evidence of displacement of the zones. Angled drill holes through this deformation zone could help to gain a better understanding of the nature of the deformation.

The solids for each of the domains were considered hard boundaries during grade interpolation runs, and grades from one domain were not allowed to influence the block grades in other domains.

The mineralized zones occur in five, flat-lying horizons that overly one another. The five major horizons of the fG units were assigned the following numeric codes; 240, 270, 280, 290 and 250. Domains 250, 270 and 280 were modelled into multiple solids and each solid was assigned a sub-domain code; 251, 252, 253, 254, 271, 272, 273, 280, and 281. All of these domains are present in the Area 2 deposit but some of these zones (240, 271, 272, 281, and 254) have not been identified in Area 118 thus far. The upper zones may be missing due to erosion at the surface and the lower zones may be identified with more detailed drilling. Table 17.16 includes a list of the domain codes assigned to the drill data and the block model.

Figure 17.6 is a 3-dimensional view of the zones solids, showing their block model codes (or Zone-ID).

Domain	Zone Code	Horizon Name
Air	0	
Overburden	1	
Background (Waste)	99	
Zone 240	240	J
Zone 271	271	К
Zone 272	272	L
Zone 273	273	L
Zone 280	280	M Upper
Zone 281	281	М
Zone 290	290	N
Zone 251	251	0
Zone 252	252	0
Zone 253	253	Р
Zone 254	254	Q

Table 17.16: Area 2 and Area	a 118 Domain Codes and Names

Zone codes were modified to reflect their location within Area 2, Transition Zone or Area 118. Table 17.17 includes a list of the Zone codes as they were modified to include an area prefix. Throughout this section of the report and unless stated otherwise, the transition zone is considered to be included in Area 2.

Domain	Zone Code	Area 2 Code	Transition Zone Code	Area 118 Code
Zone 240	240	240	1240	2240
Zone 271	271	271	1271	2271
Zone 272	272	272	1272	2272
Zone 273	273	273	1273	2273
Zone 280	280	280	1280	2280
Zone 281	281	281	1281	2281
Zone 290	290	290	1290	2290
Zone 251	251	251	1251	2251
Zone 252	252	252	1252	2252
Zone 253	253	253	1253	2253
Zone 254	254	254	1254	2254

 Table 17.17: Zone and Area Codes Assigned to Composites and Blocks

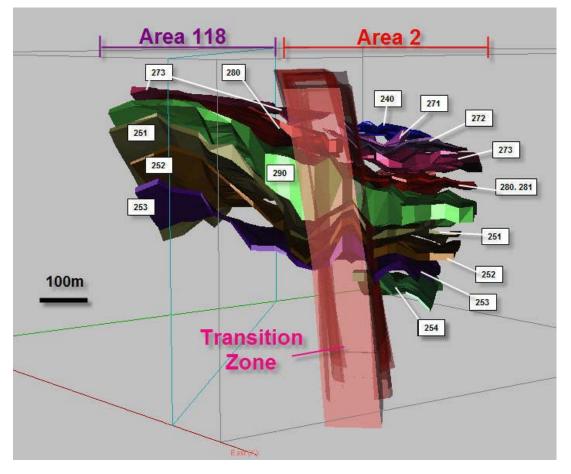


Figure 17.6: Area 2 and Area 118 Domain Model Solids and Coding (View is looking towards the North-west)

#### 17.3.2 Drill Hole Data Analysis

For Area 2, LGGC added the data from 26 new drill holes to the same database that was used for the February 2006 resource estimation. The original database contained the data from 96 drill holes. A list of the new drill holes is included in Table 17.18.

Hole ID	Length (m)	X Coordinate (m)	Y Coordinate (m)	Elevation (m)	Dip (deg)
07SWC171	426.42	384673.4	6944710	827.37	-90
07SWC177	371.55	384720	6944849	814.09	-90
07SWC178	359.36	384830.5	6944650	836.17	-90
07SWC179	359.36	384734	6944795	818.26	-90
07SWC188	309.7	384740.3	6944400	882.29	-90
07SWC191	322.2	384677.8	6944461	876.75	-90
07SWC192	267.9	384779.8	6944540	858.19	-90
07SWC193	313	384799.3	6944341	879.86	-90
07SWC196	249.6	384876.9	6944641	832.85	-60
07SWC197	151.5	384961.5	6944475	851.74	-90
07SWC198	163.7	384915	6944599	834.35	-90
07SWC201	243.5	384808.9	6944506	860.97	-60
07SWC202	291.7	384739.6	6944359	887.16	-90
07SWC205	188.1	384979.7	6944658	819.93	-90
07SWC208	127.1	384941.1	6944659	822.62	-90
07SWC211	349.6	384895.4	6944660	828.84	-90
07SWC214	163.7	384836.6	6944518	858.08	-90
07SWC216	322.2	384777.9	6944502	864.58	-90
07SWC218	325.2	384803	6944526	858.66	-90
07SWC220	322.2	384759	6944460	871.49	-90
07SWC238	309.83	384841.2	6944370	872.37	-90
07SWC255	359.1	384962	6944300	858.02	-90
07SWC257	332.5	384718.8	6944495	868.51	-90
07SWC263	360.6	384799.5	6944416	874.21	-90
07SWC267	356.01	384721.2	6944557	857.05	-90
07SWC269	326.4	385080.4	6944319	838.97	-90

For Area 118, LGGC added the data for 28 drill holes to the project database. MintoEx drilled 23 of these holes in 2007 and five of the drill holes were historical holes drilled by ASARCO in 1974. Assay data had not been received from the assay lab for drill holes 07SWC236 or 07SWC259 for inclusion in this resource estimation, but the geology data was used to guide the domain interpretations. A list of the drill holes used to build the Area 118 deposit domains is included in Table 17.19.

Hole ID	Length (m)	X Coordinate (m)	Y Coordinate (m)	Elevation (m)	Dip (deg)
07SWC187	383.10	384620.01	6944399.18	887.92	-90
07SWC188	309.70	384740.28	6944400.26	882.29	-90
07SWC189	279.50	384500.73	6944397.11	884.01	-90
07SWC190	285.00	384338.26	6944322.03	884.95	-90
07SWC191	322.20	384677.84	6944461.19	876.75	-90
07SWC193	313.00	384799.26	6944340.53	879.86	-90
07SWC194	294.70	384382.10	6944400.30	872.86	-90
07SWC195	271.30	384560.98	6944457.48	873.10	-90
07SWC199	309.70	384637.96	6944298.21	900.92	-90
07SWC200	249.00	384620.05	6944340.24	896.95	-90
07SWC202	291.70	384739.56	6944359.44	887.16	-90
07SWC203	279.20	384859.75	6944282.98	872.92	-90
07SWC204	276.50	384742.02	6944281.49	894.49	-90
07SWC222	331.00	384703.16	6944237.30	901.22	-90
07SWC224	249.90	384619.80	6944219.19	910.90	-90
07SWC226	242.62	384560.74	6944279.09	906.80	-90
07SWC228	215.20	384500.55	6944280.73	905.52	-90
07SWC230	224.30	384557.89	6944337.69	897.54	-90
07SWC232	242.90	384534.47	6944219.59	915.16	-90
07SWC234	264.30	384560.00	6944400.00	887.00	-90
07SWC236	270.40	384680.52	6944400.93	886.16	-90
07SWC238	309.83	384841.24	6944370.03	872.37	-90
07SWC259	222.20	384500.97	6944345.50	894.39	-90
A112-74	246.89	384647.30	6944096.48	916.78	-90
A118-74	223.11	384448.32	6944333.86	893.92	-90
A135-74	288.34	385001.54	6944223.43	853.01	-90
A137-74	301.14	384887.53	6944333.53	867.95	-90
A139-74	331.62	384682.25	6944349.95	893.92	-90

Data analyses were completed using all the assay data for Areas 2 and Area 118. Descriptive statistics and histograms were reviewed for the copper, gold and silver grades. The results were used to guide the interpolation parameters applied to the Area 2 and Area 118 mineral resource estimations.

Table 17.20 contains the summary statistics for the uncut % Cu assay data for Area 2 and Area 118.

Zone	No. Assays	Mean	Std Dev	Coefficient of Variation	Min	Quantiles 25	Median	Quantiles 75	Max
240	186	0.40	0.62	1.55	0.005	0.020	0.12	0.58	5.50
251	272	0.31	0.27	0.84	0.005	0.150	0.28	0.41	1.90
252	287	0.53	0.49	0.93	0.005	0.230	0.46	0.70	5.20
253	250	0.54	1.05	1.94	0.000	0.110	0.33	0.61	12.85
254	136	0.10	0.18	1.77	0.000	0.010	0.04	0.13	1.36
271	70	0.34	0.39	1.16	0.005	0.160	0.29	0.44	3.00
272	310	0.35	0.35	1.01	0.005	0.078	0.26	0.50	2.23
273	802	0.89	1.40	1.58	0.005	0.160	0.47	0.93	16.70
280	935	1.50	1.30	0.87	0.005	0.240	1.40	2.23	6.72
281	224	0.30	0.35	1.16	0.005	0.073	0.21	0.35	2.30
290	1768	0.16	0.42	2.59	0.005	0.040	0.08	0.16	9.42
1251	175	0.93	1.42	1.53	0.005	0.050	0.25	1.14	6.95
1252	194	0.61	0.80	1.31	0.005	0.160	0.30	0.70	3.93
1253	247	0.59	0.92	1.55	0.005	0.210	0.41	0.67	11.25
1254	19	0.09	0.15	1.69	0.005	0.005	0.01	0.13	0.50
1272	4	0.31	0.59	1.93	0.010	0.010	0.01	0.90	1.19
1273	37	0.64	0.82	1.27	0.005	0.040	0.42	0.75	3.52
1280	159	0.60	0.68	1.13	0.005	0.280	0.44	0.66	4.31
1290	763	0.09	0.28	3.22	0.005	0.005	0.02	0.07	4.06
2251	284	0.83	1.73	2.10	0.005	0.010	0.12	0.92	19.25
2252	128	0.27	0.49	1.79	0.005	0.020	0.14	0.30	3.96
2253	43	0.11	0.16	1.43	0.005	0.005	0.02	0.22	0.52
2273	134	0.11	0.19	1.78	0.005	0.005	0.05	0.14	1.42
2280	258	0.35	0.52	1.49	0.005	0.010	0.24	0.48	3.92
2290	634	0.15	0.29	1.90	0.005	0.005	0.02	0.15	2.38

#### Table 17.20: Summary of Statistics for Un-Cut % Cu Assays in Area 2 and Area 118

#### 17.3.3 Evaluation of Extreme Grades

Extreme grades were examined for copper, gold and silver assay values, mainly by histograms and probability plots. Copper, gold and silver showed extreme grade values where a clear break in the sample trend is observed in the probability plots. LGGC implemented grade caps at the break values for each grade element and zone as outlined in Table 17.21.

Zone	No.	C	Cu (%)	A	u (g/t)		Ag (g/t)
Code	Assays	Сар	No. Capped	Сар	No. Capped	Сар	No. Capped
240	186	1.30	10	0.30	8	5.00	6
251	272	1.00	5	0.30	4	4.00	4
1251	175	6.00	2	2.00	4	20.00	3
2251	284	6.00	4	2.00	5	20.00	9
252	287	2.00	3	0.70	7	5.20	13
1252	194	3.20	4	1.50	2	9.00	9
2252	128	3.20	1	1.50	1	9.00	3
253	250	2.00	7	1.00	8	9.00	9
1253	247	2.60	5	1.60	2	5.50	13
2253	43	-	-	-	-	-	-
254	136	0.65	2	-	-	2.1	7
1254	19	-	-	-	-	-	-
271	70	0.75	2	0.040	4	1.40	2
272	310	1.40	3	0.200	5	3.50	5
1272	4	-	-	-	-	-	-
273	802	8.00	4	4.00	4	30.00	7
1273	37	1.60	3	0.16	2	2.00	6
2273	134	-	-	0.16	2	2.00	1
280	935	5.50	9	4.00	4	23.00	4
1280	159	2.30	5	0.43	1	7.00	1
2280	258	2.30	4	0.43	6	7.00	3
281	224	1.30	5	0.20	6	2.30	8
290	1768	4.00	3	2.00	4	15.00	3
1290	763	1.50	6	0.40	6	9.00	4
2290	634	1.50	4	0.40	4	-	-

#### Table 17.21: Summary of Capping Strategy and Number of Assays Capped by Zone

An example of the probability plots used to determine the capping grades are included for Cu, Au and Ag in Zone 251 in Figure 17.7, Figure 17.8 and Figure 17.9.

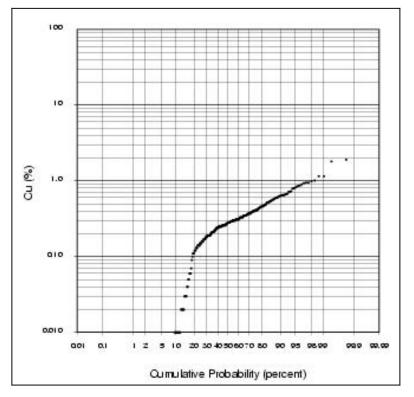


Figure 17.7: Probability Plot for Zone 251 Cu%

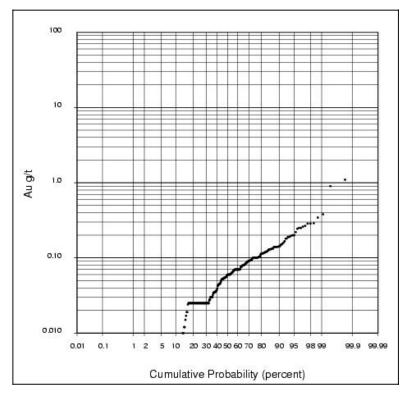


Figure 17.8: Probability Plot for Zone 251 Au g/t

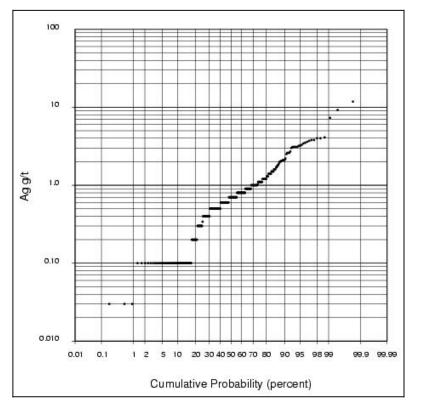


Figure 17.9: Probability Plot for Zone 251 Ag g/t

#### 17.3.4 Compositing

Assays were composited into 3 m down-hole composites. The compositing process honoured the zone domain boundaries.

Of the 4443 composites created from the assay data, only 136 of them were shorter than 0.5 m. These short composites were reviewed and there was no grade bias associated with these remnant composites for copper, gold or silver and they were deleted from the database. This was done since GEMS cannot length weight composites during grade interpolation. Table 17.22 contains the summary statistics for the cut 3 m composite data for Area 2 and Area 118.

	_								
Zone	No. Comps	Mean	Std Dev	Coefficient of Variation	Min	Quantiles 25	Median	Quantiles 75	Max
240	125	0.33	0.42	1.25	0.000	0.009	0.12	0.62	1.30
251	133	0.35	0.19	0.55	0.005	0.220	0.31	0.43	1.00
252	145	0.55	0.34	0.61	0.000	0.317	0.49	0.73	2.00
253	119	0.47	0.39	0.82	0.003	0.199	0.38	0.62	1.85
254	69	0.10	0.11	1.09	0.000	0.020	0.05	0.15	0.41
271	48	0.25	0.21	0.84	0.000	0.000	0.27	0.40	0.74
272	153	0.37	0.27	0.73	0.000	0.172	0.33	0.49	1.31
273	406	0.92	1.23	1.33	0.000	0.303	0.53	0.96	7.54
280	445	1.53	1.07	0.70	0.000	0.632	1.50	2.20	5.46
281	114	0.31	0.26	0.83	0.000	0.151	0.23	0.38	1.02
290	921	0.16	0.30	1.94	0.000	0.046	0.09	0.16	3.64
1251	76	0.88	1.17	1.33	0.000	0.081	0.32	1.31	4.56
1252	91	0.69	0.78	1.13	0.000	0.223	0.36	0.81	3.18
1253	111	0.57	0.48	0.83	0.005	0.323	0.43	0.68	2.49
1254	7	0.08	0.13	1.60	0.005	0.005	0.02	0.15	0.36
1272	2	0.21	0.28	1.35	0.010	0.010	0.21	0.40	0.40
1273	20	0.53	0.48	0.91	0.000	0.123	0.45	0.82	1.60
1280	73	0.55	0.34	0.63	0.010	0.334	0.45	0.67	2.27
1290	424	0.07	0.13	1.92	0.000	0.010	0.03	0.07	1.50
2251	163	0.63	1.09	1.73	0.000	0.005	0.11	0.79	5.83
2252	72	0.28	0.45	1.62	0.000	0.053	0.16	0.29	3.18
2253	31	0.12	0.17	1.43	0.000	0.005	0.02	0.34	0.52
2273	94	0.09	0.18	2.03	0.000	0.000	0.03	0.12	1.40
2280	161	0.28	0.34	1.20	0.000	0.010	0.20	0.44	1.89
2290	440	0.12	0.21	1.83	0.000	0.005	0.02	0.12	1.50

# Table 17.22: Summary of Statistics for Cut 3 m Cu Composites in Area 2 and Area 118

#### 17.3.5 Block Model Definition

The block model definition is shown in Figure 17.10 for reference. The blocks are 15 meter by 15 meter horizontally and 3 meters vertically in size.

X:	384145	Rotation: 0
Y:	6943800	Rotation is anti-clockwise aroun
Z:	1000	the origin.
The origir	n is at the minimum X, n	ninimum Y, and maximum Z corner.
		ninimum Y, and maximum Z corner.
Block size		
The origin Block size Column: Row:	98	Number of blocks

Figure 17.10: Block Model Definition for the Area 2 and Area 118

#### 17.3.6 Bulk Density Values

The bulk density model for Area 2 and Area 118 was built by interpolation of the bulk density determinations provided by MintoEx geologists. A subset of these values has been checked by an independent lab and the results are considered acceptable for resource estimation purposes by LGGC.

The bulk density values were interpolated into the blocks inside each zone solid by means of ID2, with the exception of the overburden domain which was assigned a constant bulk density value of  $2.00 \text{ (g/cm}^3)$ .

The following search parameters where used for interpolation in all zones:

- Search Ellipse: 200 m radius in the X (Easting), 200 m radius in the Y (Northing) and 100 m radius in the Z (Elevation) directions.
- A maximum of 8 and a minimum of 3 determinations were used in interpolation of each block.

Blocks that were not filled using the criteria above, were assigned the average value for their corresponding zone as listed in Table 17.23.

Zone Code	Average Bulk Density
240	2.62
271	2.70
272	2.66
273	2.68
280	2.69
281	2.66
290	2.69
251	2.72
252	2.70
253	2.68
254	2.68

#### Table 17.23: Bulk Density (g/cm<sup>3</sup>) Averages and Capping Values by Domain

LGGC has reviewed the results of the bulk density model on sections and plans to ensure that the procedures above had been executed properly.

#### 17.3.7 Variography

The variography for Area 2 was not updated from the previous estimation as there were not enough new data points to impact the original variography used in the initial model.

The grade values for Area 118 were interpolated using ID2, so no variography study was completed on this data.

It should be noted that variography was completed on the original larger domain groupings and not the sub-domained data (i.e. Zone 270, not 271, 272). Due to a lack of sufficient number of composites, no correlogram was produced for Zone 240 and the correlogram for Zone 270 is used to interpolate the Zone 240 blocks.

LGGC considers these correlograms to be valid for resource estimation purposes.

#### 17.3.8 Grade Model and Interpolation Plan

The domain solids were used to assign rock codes (Zone-ID) to the block model. Blocks above the topographic surface were tagged as air (code 0) and blocks outside of the fG zones but below topography were tagged as background (code 99).

A percent model was used to record the percentage of the block inside the solid for each zone code.

Values from the composites for copper and gold were interpolated into the block model using ordinary kriging (KG), ID2 and nearest neighbour (NN) methods. Silver values were interpolated into the blocks using ID2 only. Due to the differences in the data density the kriged values for copper and gold were used for the Area 2 resource estimation tabulations and the ID2 values were used for the Area 118 tabulations. The NN method assigns grade to the block model using the single closest composite value to the block center.

Interpolation was restricted by Zone-ID so there was no intermixing of grade values between the different zones. For all domains a minimum of 3 composites were used, with an additional parameter for maximum composites per drill hole set to 2. This strategy forces the interpolation to require a minimum of two holes within the search ellipse before a grade value can be assigned to a block. Table 17.24 and Table 17.25 list the interpolation parameters used for all metals (Cu, Au, and Ag) in Area 2 and Area 118.

Zone ID	240	271	772	273	280	281	290	251	252	253	254
Search Ellipse											
X (m)	100	100	100	100	150	150	100	100	100	100	100
Y (m)	150	150	150	150	150	150	150	150	150	150	150
Z (m)	75	75	75	75	75	75	100	65	65	65	65
Rotation											
Azimuth (deg)	48	48	48	48	121	121	60	45	45	45	45
Dip	-9	-9	-9	-9	-74	-74	-15	-15	-15	-15	-15
Azimuth (deg)	315	315	315	315	320	320	330	325	325	325	325
Method	ок										
Data Selection											
Min Comps	3	3	3	3	3	3	3	3	3	3	3
Max Comps	10	10	10	10	10	10	10	10	10	10	10
Max per Hole	2	2	2	2	2	2	2	2	2	2	2
Min No Holes	2	2	2	2	2	2	2	2	2	2	2

Zone ID	2240	2271	2772	2273	2280	2281	2290	2251	2252	2253	2254
Search Ellipse											
X (m)	100	100	100	100	150	150	100	100	100	100	100
Y (m)	150	150	150	150	150	150	150	150	150	150	150
Z (m)	75	75	75	75	75	75	100	65	65	65	65
Rotation											
Azimuth (deg)	48	48	48	48	121	121	60	45	45	45	45
Dip (deg)	-9	-9	-9	-9	-74	-74	-15	-15	-15	-15	-15
Azimuth (deg)	315	315	315	315	320	320	330	325	325	325	325
Method	ID2										
Data Selection											
Min Comps	3	3	3	3	3	3	3	3	3	3	3
Max Comps	10	10	10	10	10	10	10	10	10	10	10
Max per Hole	2	2	2	2	2	2	2	2	2	2	2
Min No Holes	2	2	2	2	2	2	2	2	2	2	2

#### Table 17.25: Interpolation Parameters for Area 118 Blocks (Ranges are in metres)

#### 17.3.9 Model Validation

#### **Visual Inspection**

LGGC completed a review of the Area 2 and Area 118 resource block model. The model was checked for proper coding of drill hole intervals and block model cells. The coding was found to be properly done. Interpolated grade in the blocks was examined relative to drill hole composite values by inspecting the sections and plans. The checks showed good agreement between drill hole composite values.

#### **Global Means**

LGGC also checked the block model estimates for global bias by comparing the average copper and gold grades from the KG model with means from ID2 and NN estimates. The NN estimator produces a theoretically unbiased estimate of the average value when no cut off grade is imposed and is a good basis for checking the performance of different estimation methods. Results in Table 167.26 show no evidence of bias in the estimate.

Zone	KG Cu (%)	ID2 Cu (%)	NN Cu (%)	KG Au (g/t)	ID2Au (g/t)	NN Au (g/t)
240	0.41	0.43	0.41	0.07	0.07	0.07
270	0.47	0.47	0.46	0.12	0.12	0.11
280	0.66	0.66	0.68	0.20	0.20	0.20
290	0.11	0.11	0.13	0.02	0.02	0.02
250	0.48	0.50	0.48	0.15	0.15	0.15

Table 17.26: Comparison of OK, ID and NN Global Mean Values

LGGC also checked for local trends in the grade estimates by plotting the results from the KG, ID2, and NN estimate results on easting, northing and elevation swath plots. The KG and ID2 estimates should be smoother than the NN estimate and the ID2 should be smoother than the KG estimate. The NN estimate should fluctuate around the ID and OK estimates on the plots. LGGC has included the plots for the copper grades in Zone 251 in Area 2 (indicated blocks only) as examples of the charts (Figure 17.11, Figure 17.12 and Figure 17.13).

The results for the copper and gold grades show close tracking between the three estimates and no local trends.

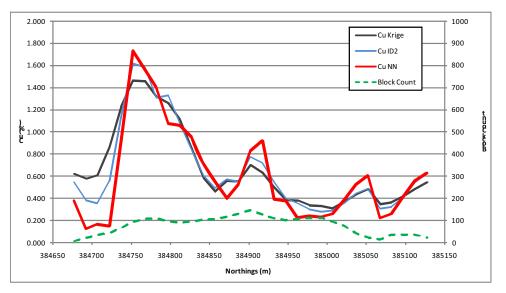


Figure 17.11: Swath Plot for 251 Zone - Northings - Cu (%)

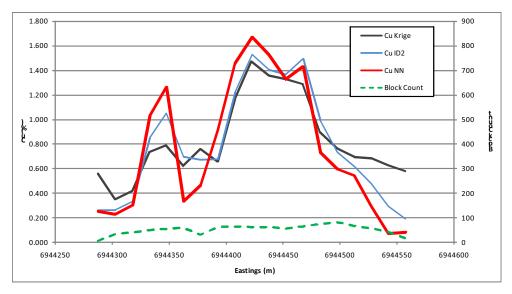


Figure 17.12: Swath Plot for 251 Zone - Eastings - Cu (%)

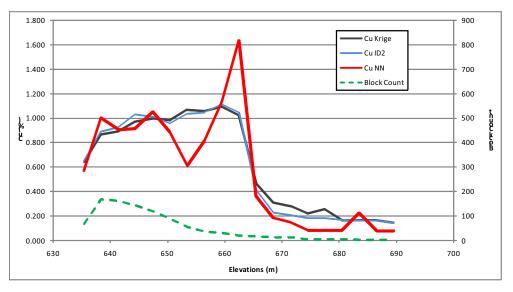


Figure 17.13: Swath Plot for 251 Zone - Elevations - Cu (%)

#### 17.3.10 Resource Classification and Summary

The mineral resources of the Area 2 model were classified using logic consistent with the CIM definitions referred to in National Instrument 43-101. The project mineral resources were classified into one of three categories; measured, indicated or inferred mineral resources.

All blocks within Area 118 were classed into the inferred mineral resource category due to the current wide drill hole spacing and preliminary nature of the geology/grade model. MintoEx is currently infill drilling the area and early indications are that the model is being corroborated by these new holes, but a detailed review is required before a higher level of classification can be assigned.

In Area 2, LGGC applied the same modelling plan that was applied in the previous resource estimation for this deposit.

- For measured mineral resources to be applied to a block, three or more drill holes must contribute grade composites within 30 m of a block centre for Zones 240, 270 and 280 and within 18 m for Zone 290. No measured mineral resources were assigned to Zone 250 due to its deeper location in the deposit.
- For indicated mineral resources to be applied to a block, two or more drill holes must contribute grade composites within 50 m of a block centre for Zones 240, 270 and 280, within 45 m for Zone 250 and 30 m for Zone 290.
- All other blocks that were assigned a grade within the domains were classed as inferred mineral resources.

Table 17.27 contains the results of the resource estimation for Area 2 and Area 118 copper, gold and silver values as of data available from March 2008. The resource estimate results for Area 2 and Area 118 are being declared using 0.50 % Cu cut-off. For comparative purposes, additional gold grade cut-offs equal to 0.20, 0.30, 0.40, 0.75, 1.00, 1.50 and 2.00% Cu are also tabulated in Table 17.28 to Table 17.34.

The resources are reported to a depth of approximately 400 m elevation, which is approximately 400 m below the surface.

Based on the study herein reported, delineated mineralization of Area 2 and Area 118 is classified as a mineral resource according to the following definitions from NI 43-101.

"In this Instrument, the terms "mineral resource", "inferred mineral resource", "indicated mineral resource" and "measured mineral resource" have the meanings ascribed to those terms by the Canadian Institute of Mining, Metallurgy and Petroleum, as the CIM Standards on Mineral Resources and Reserves Definitions and Guidelines adopted by CIM Council on 11 December 2005, as those definitions may be amended from time to time by the Canadian Institute of Mining, Metallurgy, and Petroleum."

"A Mineral Resource is a concentration or occurrence of diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal, and industrial minerals in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge."

"An 'Inferred Mineral Resource' is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes."

Due to uncertainty associated with Inferred Mineral Resources, additional exploration work on the property may or may not succeed in upgrading the portions of the deposit currently classified as Inferred Mineral Resource to an Indicated or Measured Mineral Resource. Because confidence in these portions of the estimate is insufficient to allow the meaningful application of technical and economic parameters or to enable an evaluation of economic viability worthy of public disclosure, the Inferred Mineral Resources must be excluded from estimates forming the basis of feasibility or other economic studies.

An 'Indicated Mineral Resource' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics, can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough for geological and grade continuity to be reasonably assumed.

A 'Measured Mineral Resource' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough to confirm both geological and grade continuity.

Zone	Class	Volume	Tonnage	Cu (%)	Au (g/t)	Ag (g/t)
All Zones	Measured	1,710,000	4,670,000	1.48	0.57	5.00
All Zones	Indicated	2,460,000	6,640,000	0.88	0.29	2.93
All Zones	Inferred	1,310,000	3,530,000	0.74	0.24	2.54
All Zones	Meas & Ind	4,170,000	11,310,000	1.13	0.40	3.79
240	Measured	60,000	160,000	0.76	0.13	1.94
240	Indicated	0	20,000	0.81	0.17	2.98
240	Inferred	0	0	-	-	-
240	Meas & Ind	70,000	180,000	0.76	0.13	2.04
270	Measured	670,000	1,810,000	1.24	0.44	4.47
270	Indicated	320,000	860,000	0.77	0.16	2.24
270	Inferred	120,000	310,000	0.71	0.14	1.82
270	Meas & Ind	990,000	2,670,000	1.09	0.35	3.75
280	Measured	970,000	2,690,000	1.68	0.68	5.55
280	Indicated	470,000	1,270,000	0.77	0.22	2.30
280	Inferred	120,000	320,000	0.81	0.28	3.33
280	Meas & Ind	1,440,000	3,960,000	1.39	0.53	4.51
290	Measured	0	0	-	-	-
290	Indicated	90,000	240,000	0.84	0.36	2.85
290	Inferred	30,000	70,000	0.40	0.08	2.97
290	Meas & Ind	90,000	240,000	0.84	0.36	2.85
250	Measured	0	0	-	-	-
250	Indicated	1,570,000	4,250,000	0.94	0.33	3.27
250	Inferred	1,050,000	2,830,000	0.74	0.25	2.53
250	Meas & Ind	1,570,000	4,250,000	0.94	0.33	3.27

#### Table 17.27: Mineral Resources for Area 2 and 118 Deposits Reported using a 0.50 % Cu Cut-off

Zone	Class	Volume	Tonnage	Cu (%)	Au (g/t)	Ag (g/t)
All Zones	Measured	2,360,000	6,420,000	1.17	0.42	3.87
All Zones	Indicated	5,060,000	13,610,000	0.61	0.18	2.00
All Zones	Inferred	12,610,000	33,920,000	0.50	0.12	1.58
All Zones	Meas & Ind	7,420,000	20,030,000	0.79	0.26	2.60
240	Measured	120,000	310,000	0.55	0.09	1.39
240	Indicated	10,000	40,000	0.51	0.10	1.67
240	Inferred	0	10,000	0.21	0.03	0.44
240	Meas & Ind	130,000	350,000	0.55	0.09	1.42
270	Measured	1,140,000	3,060,000	0.88	0.28	3.01
270	Indicated	610,000	1,640,000	0.59	0.11	1.61
270	Inferred	630,000	1,690,000	0.43	0.06	0.96
270	Meas & Ind	1,750,000	4,700,000	0.78	0.22	2.52
000	Management	4 440 000	0.000.000	4 50	0.00	4.00
280	Measured	1,110,000	3,060,000	1.52	0.60	4.98
280	Indicated	740,000	1,990,000	0.63	0.17	1.85
280	Inferred	2,560,000	6,850,000	0.44	0.08	1.24
280	Meas & Ind	1,850,000	5,050,000	1.17	0.43	3.74
290	Measured	0	0	_	_	_
290	Indicated	620,000	1,680,000	0.36	0.11	1.09
290	Inferred	2,810,000	7,520,000	0.34	0.05	1.16
290	Meas & Ind	620,000	1,680,000	0.36	0.11	1.09
250	Measured	0	0	0.00	0.00	0.00
250	Indicated	3,050,000	8,220,000	0.66	0.21	2.31
250	Inferred	6,600,000	17,860,000	0.60	0.17	1.95
250	Meas & Ind	3,050,000	8,220,000	0.66	0.21	2.31

# Table 17.28: Resources for Area 2 and 118 Deposits Reported using a 0.20 % Cu Cut-off

Zone	Class	Volume	Tonnage	Cu	Au	Ag
	Magazinad	2,140,000		(%)	(g/t)	(g/t)
All Zones	Measured	2,140,000	5,820,000	1.26	0.47	4.21
All Zones	Indicated	4,250,000	11,440,000	0.68	0.21	2.24
All Zones	Inferred	8,930,000	24,020,000	0.60	0.15	1.91
All Zones	Meas & Ind	6,390,000	17,260,000	0.88	0.29	2.90
		00.000				4.07
240	Measured	90,000	230,000	0.66	0.11	1.67
240	Indicated	10,000	30,000	0.67	0.13	2.25
240	Inferred	0	0	0.00	0.00	0.00
240	Meas & Ind	100,000	250,000	0.66	0.11	1.73
270	Measured	1,020,000	2,750,000	0.95	0.31	3.27
270	Indicated	570,000	1,520,000	0.62	0.12	1.69
270	Inferred	460,000	1,220,000	0.51	0.07	1.13
270	Meas & Ind	1,590,000	4,270,000	0.83	0.24	2.71
280	Measured	1,030,000	2,850,000	1.61	0.65	5.31
280	Indicated	690,000	1,850,000	0.66	0.18	1.95
280	Inferred	2,030,000	5,420,000	0.49	0.09	1.38
280	Meas & Ind	1,720,000	4,700,000	1.24	0.46	3.99
290	Measured	0	0	-	-	-
290	Indicated	240,000	660,000	0.55	0.21	1.76
290	Inferred	1,470,000	3,910,000	0.42	0.06	1.46
290	Meas & Ind	240,000	660,000	0.55	0.21	1.76
250	Measured	0	0	0.00		
250	Indicated	2,740,000	7,390,000	0.71	0.23	2.47
250	Inferred	4,970,000	13,470,000	0.71	0.21	2.32
250	Meas & Ind	2,740,000	7,390,000	0.71	0.23	2.47

# Table 17.29: Resources for Area 2 and 118 Deposits Reported using a 0.30 % Cu Cut-off

Zone	Class	Volume	Tonnage	Cu (%)	Au (g/t)	Ag (g/t)
All Zones	Measured	1,350,000	3,720,000	1.70	0.68	5.90
All Zones	Indicated	1,050,000	2,860,000	1.25	0.44	4.26
All Zones	Inferred	1,810,000	4,930,000	1.22	0.38	3.89
All Zones	Meas & Ind	2,400,000	6,580,000	1.51	0.58	5.19
240	Measured	30,000	90,000	0.87	0.15	2.29
240	Indicated	0	10,000	0.89	0.20	3.47
240	Inferred	0	0	0.00	0.00	0.00
240	Meas & Ind	40,000	100,000	0.87	0.15	2.42
070	Management	440.000	4 400 000	4.00	0.05	0.04
270	Measured	410,000	1,120,000	1.63	0.65	6.31
270	Indicated	100,000	280,000	1.16	0.33	4.30
270	Inferred	30,000	90,000	1.10	0.28	3.22
270	Meas & Ind	510,000	1,400,000	1.53	0.59	5.91
280	Measured	900,000	2,510,000	1.76	0.72	5.83
280	Indicated	140,000	370,000	1.22	0.42	3.98
280	Inferred	170,000	470,000	1.08	0.25	3.18
280	Meas & Ind	1,040,000	2,880,000	1.69	0.68	5.59
290	Measured	0	0	-	-	-
290	Indicated	40,000	110,000	1.15	0.51	4.02
290	Inferred	30,000	90,000	0.81	0.07	3.18
290	Meas & Ind	40,000	110,000	1.15	0.51	4.02
		_				
250	Measured	0	0	0.00	0.00	0.00
250	Indicated	770,000	2,100,000	1.28	0.46	4.32
250	Inferred	1,560,000	4,280,000	1.24	0.41	3.99
250	Meas & Ind	770,000	2,100,000	1.28	0.46	4.32

# Table 17.31: Resources for Area 2 and 118 Deposits Reported using a 0.75 % Cu Cut-off

Zone	Class	Volume	Tonnage	Cu (%)	Au (g/t)	Ag (g/t)
All Zones	Measured	1,110,000	3,080,000	1.87	0.78	6.58
All Zones	Indicated	550,000	1,500,000	1.62	0.59	5.63
All Zones	Inferred	890,000	2,450,000	1.57	0.51	5.05
All Zones	Meas & Ind	1,660,000	4,580,000	1.79	0.72	6.27
240	Measured	0	10,000	1.07	0.22	3.79
240	Indicated	0	0	-	-	-
240	Inferred	0	0	-	-	-
240	Meas & Ind	0	10,000	1.07	0.22	3.79
270	Measured	290,000	780,000	1.96	0.85	7.97
270	Indicated	50,000	140,000	1.47	0.48	6.47
270	Inferred	10,000	40,000	1.43	0.46	5.10
270	Meas & Ind	340,000	920,000	1.89	0.79	7.74
280	Measured	830,000	2,290,000	1.84	0.76	6.12
280	Indicated	80,000	230,000	1.46	0.54	4.87
280	Inferred	70,000	200,000	1.37	0.35	4.40
280	Meas & Ind	910,000	2,520,000	1.81	0.74	6.01
000		0	0			
290	Measured	0	0	-	-	-
290	Indicated	20,000	60,000	1.38	0.62	5.25
290	Inferred	0	0	-	-	-
290	Meas & Ind	20,000	60,000	1.38	0.62	5.25
250	Measured	0	0	-	-	-
250	Indicated	390,000	1,080,000	1.69	0.61	5.70
250	Inferred	800,000	2,210,000	1.59	0.52	5.11
250	Meas & Ind	390,000	1,080,000	1.69	0.61	5.70

#### Table 17.32: Resources for Area 2 and 118 Deposits Reported using a 1.00 % Cu Cutoff

Zone	Class	Volume	Tonnage	Cu (%)	Au (g/t)	Ag (g/t)
All Zones	Measured	750,000	2,090,000	2.16	0.94	7.63
All Zones	Indicated	250,000	690,000	2.10	0.74	7.33
All Zones	Inferred	350,000	970,000	2.18	0.70	6.65
All Zones	Meas & Ind	1,000,000	2,780,000	2.15	0.89	7.55
240	Measured	0	0	-	-	-
240	Indicated	0	0	-	-	-
240	Inferred	0	0	-	-	-
240	Meas & Ind	0	0	-	-	-
270	Measured	180,000	490,000	2.39	1.10	10.02
270	Indicated	20,000	60,000	1.83	0.69	9.79
270	Inferred	0	10,000	2.36	0.98	9.54
270	Meas & Ind	200,000	550,000	2.33	1.06	9.99
280	Measured	570,000	1,600,000	2.09	0.89	6.89
280	Indicated	30,000	80,000	1.84	0.72	5.96
280	Inferred	20,000	50,000	1.91	0.58	7.81
280	Meas & Ind	600,000	1,680,000	2.08	0.88	6.85
290	Measured	0	0	-	-	-
290	Indicated	0	10,000	1.85	0.82	7.60
290	Inferred	0	0	0.00	0.00	0.00
290	Meas & Ind	0	10,000	1.85	0.82	7.60
250	Measured	0	0	0.00	0.00	0.00
250	Indicated	190,000	540,000	2.18	0.75	7.26
250	Inferred	330,000	910,000	2.19	0.68	6.56
250	Meas & Ind	190,000	540,000	2.18	0.75	7.26

#### Table 17.33: Resources for Area 2 and 118 Deposits Reported using a 1.50 % Cu Cutoff

Zone	Class	Volume	Tonnage	Cu (%)	Au (g/t)	Ag (g/t)
All Zones	Measured	370,000	1,040,000	2.58	1.21	9.45
All Zones	Indicated	120,000	340,000	2.49	0.83	8.53
All Zones	Inferred	170,000	480,000	2.63	0.80	7.77
All Zones	Meas & Ind	490,000	1,380,000	2.56	1.11	9.22
240	Measured	0	0	-	-	-
240	Indicated	0	0	-	-	-
240	Inferred	0	0	-	-	-
240	Meas & Ind	0	0	-	-	-
270	Measured	100,000	300,000	2.82	1.35	12.12
270	Indicated	10,000	20,000	2.15	0.87	12.03
270	Inferred	0	0	0.00	0.00	0.00
270	Meas & Ind	110,000	320,000	2.79	1.33	12.12
280	Measured	260,000	740,000	2.49	1.15	8.36
280	Indicated	10,000	20,000	2.23	0.92	6.27
280	Inferred	10,000	20,000	2.06	0.61	8.51
280	Meas & Ind	270,000	760,000	2.48	1.14	8.29
290	Measured	0	0	-	-	-
290	Indicated	0	0	-	-	-
290	Inferred	0	0	-	-	-
290	Meas & Ind	0	0	-	-	-
250	Measured	0	0	0.00	0.00	0.00
250	Indicated	110,000	300,000	2.54	0.82	8.54
250	Inferred	160,000	460,000	2.66	0.77	7.71
250	Meas & Ind	110,000	300,000	2.54	0.82	8.54

#### Table 17.34: Resources for Area 2 and 118 Deposits Reported using a 2.00 % Cu Cutoff

## 17.4 Ridgetop Deposit Resource Estimation Methodology

In March 2008, LGGC was commissioned by MintoEx to provide a resource estimate for the Ridgetop deposit at the Minto Project. Susan Lomas, P.Geo., and Principal Consultant with LGGC is responsible for the resource estimation. There are no historical resource estimates for this deposit.

#### 17.4.1 Geology Model

LGGC used the same philosophy for building the geological model as was used in the Minto Mine deposit, Area 2 and Area 118. The mineralization associated with the foliated granodiorite (fG) units were constrained into domains on sections using a grade constraint of 0.20 % Cu to exclude areas of unmineralized foliated granodiorite material.

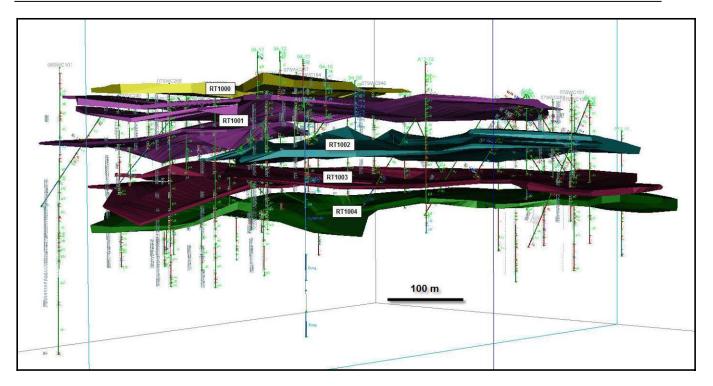
The solids for each of the domains were considered hard boundaries and grades from one domain were not allowed to influence the block grades in other domains during grade interpolation runs.

The mineralized zones occur in five, flat-lying horizons that overly one another. The five major horizons of the fG units were assigned the following numeric codes; RT1000, RT1001, RT1002, RT1003 and RT1004. Table 17.35 includes a list of the domain coding assigned to the drill data and the block model. Figure 17.14: Ridgetop Domain Model Solids and Coding (View is looking towards the North-east).

Figure 17.14 is a 3-dimensional view of the zones solids, showing their block model codes (Zone Code).

Domain Name	Zone Code
Air	9
Overburden	99
Background (Waste)	999
RT1000	1000
RT1001	1001
RT1002	1002
RT1003	1003
RT1004	1004

#### Table 17.35: Ridgetop Deposit Domain Codes and Names



## Figure 17.14: Ridgetop Domain Model Solids and Coding (View is looking towards the North-east)

#### 17.4.2 Drill Hole Data Analysis

LGGC imported the data for 41 drill holes into the GEMS project database for the Ridgetop deposit (Table 17.36).

Hole ID	X Coordinate (m)	Y Coordinate (m)	Elevation (m)	Length (m)
07SWC180	385178.85	6943504.79	886.77	182.90
07SWC181	385099.91	6943449.33	899.16	133.20
07SWC182	384943.23	6943793.64	893.75	124.70
07SWC183	384840.27	6943816.02	907.77	65.80
07SWC184	384914.76	6943654.35	919.68	120.70
07SWC185	385269.37	6943615.82	859.88	142.30
07SWC186	385226.42	6943621.76	867.90	188.10
07SWC244	384919.94	6943679.57	916.13	87.80
07SWC246	384919.51	6943720.79	909.21	72.50
07SWC247	384879.31	6943640.67	926.82	63.40
07SWC248	385001.50	6943638.40	907.69	93.90
07SWC249	384998.12	6943719.08	895.78	55.50
07SWC250	384982.61	6943756.23	893.17	121.60
07SWC251	384988.46	6943791.15	888.89	145.70
07SWC253	384901.29	6943818.03	897.21	84.40
07SWC254	384943.85	6943839.46	888.35	185.90

Page 151

Hole ID	X Coordinate (m)	Y Coordinate (m)	Elevation (m)	Length (m)
07SWC256	384948.55	6943885.18	883.33	167.00
07SWC258	384922.98	6943874.52	887.70	181.40
07SWC260	384879.03	6943882.51	892.65	124.40
07SWC261	384840.00	6943860.00	902.00	188.40
07SWC262	384883.26	6943759.18	909.21	215.80
07SWC264	384879.83	6943681.59	921.71	160.93
07SWC265	384838.71	6943783.65	912.84	215.80
07SWC266	384956.81	6943759.11	897.98	197.51
07SWC268	385160.11	6943519.96	889.26	112.20
94-01	385074.66	6943656.80	893.40	121.92
94-02	385075.79	6943656.76	893.61	137.16
94-03	385131.92	6943533.84	895.44	124.05
94-04	385133.47	6943533.79	895.78	135.64
94-05	385130.33	6943533.90	895.78	121.92
94-14	385160.43	6943471.73	889.56	182.88
94-15	384983.50	6943660.05	908.40	121.92
94-16	384982.58	6943660.08	908.61	76.20
94-18	385161.56	6943471.69	889.35	152.40
A10-72	384925.74	6943837.11	892.42	132.89
A11-72	384912.05	6943840.66	892.82	181.36
A1-71	384903.85	6943935.73	884.90	151.49
A2-71	384927.64	6943748.63	903.27	149.96
A4-71	385187.00	6943630.00	876.00	157.58
A5-71	385154.76	6943594.85	885.11	159.41
A9-72	384940.92	6943696.59	908.70	95.71

Data analyses were completed using assay data. Descriptive statistics and histograms were reviewed for the copper gold and silver grades. The results were used to guide the interpolation parameters applied to the Mineral Resource estimation. Table 17.37 contains the summary statistics for the uncut assay data for the Ridgetop deposit.

	Number	Mean	Coefficient of	Minimum	25th Quartile	Median	75th Quartile	Max
			Variation		Quartite		Quartite	
Cu (%)								
All Zones	828	0.64	1.37	0.000	0.100	0.34	0.80	6.96
1000	87	0.76	1.38	0.005	0.020	0.50	0.97	4.72
1001	325	0.65	1.28	0.005	0.060	0.39	0.93	6.96
1002	151	0.54	1.27	0.005	0.180	0.33	0.63	4.82
1003	172	0.76	1.42	0.005	0.090	0.36	0.83	5.81
1004	92	0.41	1.48	0.005	0.100	0.21	0.53	4.61
Au (g/t)								
All Zones	828	0.15	2.39	0.000	0.120	0.05	0.14	4.80
1000	87	0.06	1.80	0.003	0.005	0.03	0.06	0.89
1001	325	0.08	1.44	0.003	0.005	0.04	0.09	0.85
1002	151	0.18	2.02	0.003	0.030	0.06	0.14	2.43
1003	172	0.33	1.94	0.003	0.009	0.11	0.34	4.80
1004	92	0.14	1.95	0.003	0.019	0.05	0.13	2.09
Ag (g/t)								
All Zones	828	1.83	1.94	0.000	0.300	0.80	1.80	38.90
1000	87	1.69	1.57	0.100	0.200	0.70	1.71	17.50
1001	325	1.37	1.62	0.030	0.100	0.80	1.70	24.10
1002	151	1.74	1.76	0.100	0.340	0.80	1.61	23.31
1003	172	2.93	1.81	0.100	0.300	1.05	2.70	31.89
1004	92	1.69	2.53	0.100	0.340	0.63	1.30	38.90

### 17.4.3 Evaluation of Extreme Grades

Extreme grades were examined for copper, gold and silver assay values, mainly by histograms and probability plots. Copper, gold and silver showed extreme grade values where a clear break in the sample trend is observed on the probability plots. LGGC implemented grade caps at the break values for each grade element and zone as outlined in Table 17.38.

Zone	Class	Volume	Tonnage	Cu (%)	Au (g/t)	Ag (g/t)
All Zones	Measured	1,920,000	5,240,000	1.36	0.51	4.57
All Zones	Indicated	3,360,000	9,040,000	0.77	0.24	2.54
All Zones	Inferred	6,110,000	16,460,000	0.72	0.19	2.29
All Zones	Meas & Ind	5,280,000	14,280,000	0.99	0.34	3.29
240	Measured	70,000	190,000	0.71	0.12	1.82
240	Indicated	10,000	20,000	0.78	0.16	2.79
240	Inferred	0	0	0.00	0.00	0.00
240	Meas & Ind	80,000	210,000	0.72	0.12	1.91
270	Measured	840,000	2,280,000	1.08	0.36	3.77
270	Indicated	480,000	1,280,000	0.67	0.13	1.85
270	Inferred	330,000	880,000	0.57	0.09	1.32
270	Meas & Ind	1,330,000	3,560,000	0.93	0.28	3.08
2.0		1,000,000	0,000,000	0.00	0.20	0.00
280	Measured	1,000,000	2,770,000	1.65	0.66	5.43
280	Indicated	650,000	1,730,000	0.68	0.19	2.03
280	Inferred	1,390,000	3,700,000	0.56	0.11	1.55
280	Meas & Ind	1,650,000	4,500,000	1.28	0.48	4.12
000		2				
290	Measured	0	0	-	-	-
290	Indicated	150,000	410,000	0.68	0.28	2.21
290	Inferred	670,000	1,790,000	0.52	0.08	1.89
290	Meas & Ind	150,000	410,000	0.68	0.28	2.21
250	Measured	0	0	0.00		
250	Indicated	2,070,000	5,600,000	0.82	0.28	2.88
250	Inferred	3,720,000	10,080,000	0.83	0.25	2.72
250	Meas & Ind	2,070,000	5,600,000	0.82	0.28	2.88

# Table 17.30: Resources for Area 2 and 118 Deposits Reported using a 0.40 % Cu Cut-off

	Сар	No. Assays	Number	Mean	Coefficient of	Minimum	25th Quartile	Median	75th Quartile	Max
Cu (%)		Capped			Variation					
(g/t)										
All Zones			828	0.61	1.24	0.000	0.100	0.34	0.80	4.00
1000	2.00	9	87	0.61	1.05	0.005	0.020	0.50	0.97	2.00
1001	4.00	3	325	0.64	1.19	0.005	0.060	0.39	0.93	4.00
1002	3.00	3	151	0.53	1.15	0.005	0.180	0.33	0.63	3.00
1003	4.00	6	172	0.73	1.32	0.005	0.090	0.36	0.83	4.00
1004	2.00	1	92	0.38	1.16	0.005	0.100	0.21	0.53	2.00
Au (g/t)										
All Zones			828	0.14	2.13	0.000	0.012	0.05	0.14	3.00
1000	0.30	1	87	0.05	1.23	0.003	0.005	0.03	0.06	0.30
1001	0.50	3	325	0.07	1.31	0.003	0.005	0.04	0.09	0.50
1002	1.10	5	151	0.15	1.62	0.003	0.030	0.06	0.14	1.10
1003	3.00	2	172	0.32	1.73	0.003	0.009	0.11	0.34	3.00
1004	0.40	5	92	0.10	1.18	0.003	0.019	0.05	0.13	0.40
Ag (g/t)										
All Zones			828	1.44	1.25	0.000	0.300	0.80	1.80	9.00
1000	7.00	5	87	1.51	1.27	0.100	0.200	0.70	1.71	7.00
1001	5.00	13	325	1.18	1.09	0.030	0.100	0.80	1.70	5.00
1002	5.00	10	151	1.32	1.07	0.100	0.340	0.80	1.60	5.00
1003	9.00	14	172	2.16	1.26	0.100	0.300	1.05	2.70	9.00
1004	4.00	8	92	1.16	1.06	0.100	0.340	0.63	1.30	4.00

#### Table 17.38: Summary of Capping Strategy and Statistics for the Capped Assays

Examples of the probability plots used to determine the capping grades are included for Cu, Au and Ag for Zone RT1001 in Figure 17.15, Figure 17.16 and Figure 17.17.

100

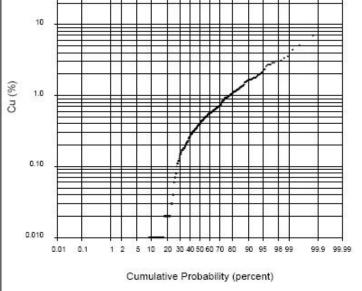


Figure 17.15: Probability Plot for Zone RT1001 Cu%

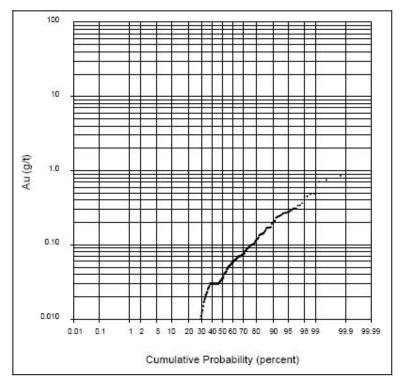


Figure 17.16: Probability Plot for Zone RT1001 Au g/t

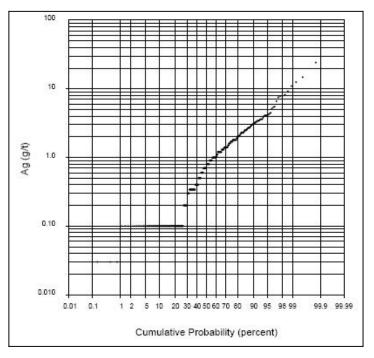


Figure 17.17: Probability Plot for Zone RT1001 Ag g/t

### 17.4.4 Compositing

Assays were composited into 3 m down-hole composites. The compositing for the data analysis honoured the zone domain boundaries. LGGC reviewed the compositing process and found it to have been performed correctly.

Of the 412 composites created from the assay data, only 31 of them were shorter than 0.5 m. These short composites were reviewed and there was no grade bias associated with these remnant composites for copper, gold or silver and they were deleted from the database. This was done since GEMS cannot length weight composites during grade interpolation.

Table 17.39 contains the summary statistics for the cut 3 m composite data for Ridgetop.

Zone	No. Comps	Mean	Std Dev	Coefficient of Variation	Min	Quantiles25	Median	Quantiles75	Мах
1000	44	0.75	0.60	0.80	0.020	0.33	0.59	1.05	2.00
1001	156	0.74	0.63	0.85	0.005	0.30	0.56	0.99	3.65
1002	84	0.58	0.56	0.98	0.005	0.22	0.35	0.72	3.00
1003	82	0.84	0.91	1.08	0.008	0.23	0.51	1.08	4.00
1004	46	0.40	0.41	1.03	0.005	0.16	0.22	0.60	2.00

Table 17.39: Summary of Statistics for Un-cut Assays

#### 17.4.5 Block Model Definition

The block model definition is shown in Figure 17.18 for reference. The blocks are 25 meter by 25 meter horizontally and 9 meters vertically in size.

e	384650	Rotation: 0
r.	6943200	Rotation is anti-clockwise around the origin.
2	1000	the origin.
he orig	in is at the minimum X, n	ninimum Y, and maximum Z comer.
		ninimum Y, and maximum Z corner.
ock siz	les	
The orig lock siz Column: Row:	les	Number of blocks



#### 17.4.6 Bulk Density Values

LGGC received a bulk density database from Minto personnel and imported this data into the assay database that was tagged for each zone. Table 17.40 shows the averaged bulk density data by zone and for the intervals that are in waste (not assigned a zone identifier). The averaged values were assigned to the block model by zone since there are currently insufficient data points to support an interpolated density model at Ridgetop.

Zone	No. Measurements	Average Bulk Density (g/cm³)	Assigned Bulk Density (g/cm³)
Waste	4636	2.69	2.69
Overburden	Value from Minto	2	2
RT1000	22	2.57	2.57
RT1001	66	2.65	2.67
RT1002	23	2.66	2.67
RT1003	42	2.73	2.67
RT1004	22	2.67	2.67
All Zones	175	2.67	

Table 17.40: Averaged Bulk Density Values by Zone for Ridgetop Deposit

#### 17.4.7 Grade Model and Interpolation Plan

The zone domain solids were used to assign rock codes (Zone-ID) to the block model. Blocks above the topographic surface were tagged as air (code 99) and blocks outside of the fG zones but below topography were tagged as background (code 999).

A percent model was used to record the percentage of the block inside the solid for each zone code.

Values from the composites for copper, gold and silver were interpolated into the block model using ordinary kriging ID2 and NN methods. The NN method assigns grade to the block model using the single closest composite value to the block center.

Interpolation was restricted by Zone-ID so there was no intermixing of grade values between the different zones. For all domains a minimum of 3 composites were used, with an additional parameter for maximum composites per drill hole set to 2. This strategy forces the interpolation to require a minimum of two holes within the search ellipse before a grade value can be assigned to a block. Table 17.41 lists the interpolation parameters used for all metals (Cu, Au, and Ag) for the Ridgetop estimation.

Zone ID	RT1000	RT1001	RT1002	RT1003	RT1004
Search Ellipse					
X (m)	100	100	100	100	150
Y (m)	100	100	100	100	100
Z (m)	21	21	21	21	21
Rotation					
Azimuth (deg)	-	-	-	-	-
Dip (deg)	-	-	-	-	-
Azimuth (deg)	-	-	-	-	-
Method	ОК	ОК	ОК	ОК	OK
Data Selection					
Min Comps	3	3	3	3	3
Max Comps	16	16	16	16	16
Max per Hole	2	2	2	2	2
Min No Holes	2	2	2	2	2

Table 17.41: Interpolation Parameters for Ridgetop ID2 Model (Ranges are in Metres)

### 17.4.8 Model Validation

#### **Visual Inspection**

The model was checked for proper coding of drill hole intervals and block model cells. The coding was found to be properly done. The project block grades were visually inspected on sections and compared to the 3 m composite grades for each zone. This review found that the block grades reflected the composite grades well.

#### **Swath Plots**

Swath plots were also made for each zone and the ID2 block grades were compared to NN block grades for the copper blocks only. The results from the ID2, and NN estimate results were plotted on easting, northing and elevation swath plots. The ID2 estimate should be smoother than the NN estimate. The NN estimate should fluctuate around the ID2 estimate on the plots. LGGC has included the plots for the copper grades in RT1001 Zone in Ridgetop as examples of the charts (Figure 17.19, Figure 17.20 and Figure 17.21).

The results for the copper grades show close tracking between the three estimates and no local trends.

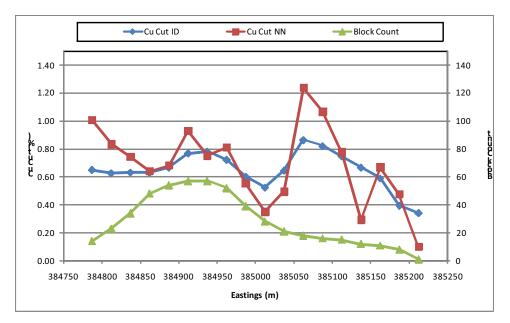


Figure 17.19: Swath Plot for RT1001 - Eastings - Cu (%)

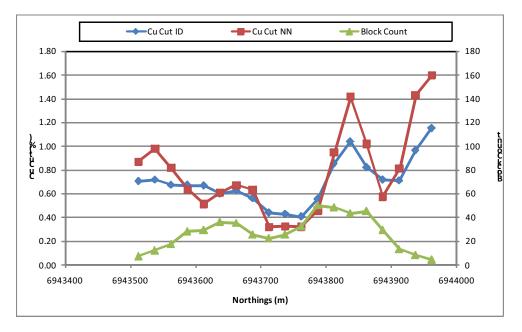


Figure 17.20: Swath Plot for RT1001 - Northings - Cu (%)

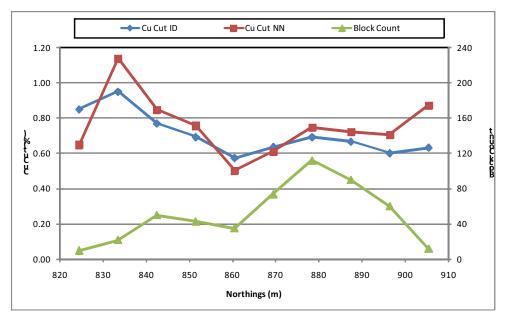


Figure 17.21: Swath Plot for 251 Zone - Elevations - Cu (%)

### 17.4.9 Resource Classification and Summary

The resources are classified wholly into the inferred mineral resources category for this estimate due to the current wide drill hole spacing, preliminary nature of the geology/grade model and lower confidence in the continuity of the grades within the zones. MintoEx is currently planning more drilling at Ridgetop to address these concerns and review the geology interpretation.

The resources are reported to a depth of approximately 730 m elevation, which is approximately 230 m below the surface.

Based on the study herein reported, delineated mineralization of the Ridgetop deposit classified as a mineral resource according to the following definitions from NI 43-101.

"In this Instrument, the terms "mineral resource", "inferred mineral resource", "indicated mineral resource" and "measured mineral resource" have the meanings ascribed to those terms by the Canadian Institute of Mining, Metallurgy and Petroleum, as the CIM Standards on Mineral Resources and Reserves Definitions and Guidelines adopted by CIM Council on 11 December 2005, as those definitions may be amended from time to time by the Canadian Institute of Mining, Metallurgy, and Petroleum."

"A Mineral Resource is a concentration or occurrence of diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal, and industrial minerals in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge."

"An 'Inferred Mineral Resource' is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes."

Due to uncertainty associated with Inferred Mineral Resources, additional exploration work on the property may or may not succeed in upgrading the portions of the deposit currently classified as Inferred Mineral Resource to an Indicated or Measured Mineral Resource. Because confidence in these portions of the estimate is insufficient to allow the meaningful application of technical and economic parameters or to enable an evaluation of economic viability worthy of public disclosure, the Inferred Mineral Resources must be excluded from estimates forming the basis of feasibility or other economic studies.

The mineral resource estimation results for Ridgetop are being declared using a 0.50 % Cu cut-off as shown in

Zone	Tonnes	Cu %	Au g/t	Ag g/t
1000	314,000	0.87	0.08	1.96
1001	2,034,000	0.8	0.1	1.41
1002	807,000	0.79	0.27	1.89
1003	1,309,000	1.05	0.45	3.05
1004	426,000	0.64	0.2	1.99
All Zones	4,890,000	0.85	0.23	2.01

## Table 17.42: Inferred Mineral Resources for Ridgetop Reported using a 0.50 % Cu Cut-off

#### Table 17.43: Inferred Mineral Resources for Ridgetop Reported using a 0.20 % Cu Cut-off

Zone	Tonnes Cu %		Au g/t	Ag g/t
1000	500,000	0.68	0.06	1.64
1001	2,670,000	0.70	0.09	1.31
1002	2,080,000	0.51	0.15	1.30
1003	1,890,000	0.84	0.36	2.46
1004	1,210,000	0.45	0.14	1.50
All Zones	8,350,000	0.65	0.17	1.61

#### Table 17.44: Inferred Mineral Resources for Ridgetop Reported using a 0.30 % Cu Cut-off

Zone	Tonnes	onnes Cu %		Ag g/t
1000	470,000	0.70	0.06	1.69
1001	2,610,000	0.71	0.09	1.33
1002	1,550,000	0.60	0.18	1.50
1003	1,690,000	0.90	0.39	2.67
1004	980,000	0.50	0.15	1.66
All Zones	7,310,000	0.70	0.19	1.74

#### Table 17.45: Inferred Mineral Resources for Ridgetop Reported using a 0.40 % Cu Cut-off

Zone	Tonnes Cu %		Au g/t	Ag g/t
1000	370,000	0.80	0.07	1.87
1001	2,370,000	0.75	0.09	1.37
1002	1,070,000	0.71	0.23	1.72
1003	1,500,000	0.97	0.41	2.84
1004	720,000	0.56	0.18	1.83
All Zones	6,040,000	0.78	0.21	1.88

Page 162

Zone	Tonnes	Cu %	Au g/t	Ag g/t
1000	167,000	1.06	0.09	2.08
1001	976,000	1	0.11	1.61
1002	317,000	1.1	0.4	2.54
1003	944,000	1.22	0.54	3.57
1004	73,000	0.82	0.25	2.23
All Zones	2,477,000	1.09	0.31	2.53

#### Table 17.46: Inferred Mineral Resources for Ridgetop Reported using a 0.75 % Cu Cut-off

## Table 17.47: Inferred Mineral Resources for Ridgetop Reported using a 1.00 % Cu Cut-off

Zone	Tonnes	Cu %	Au g/t	Ag g/t
1000	73,000	1.24	0.08	2.14
1001	335,000	1.29	0.12	1.84
1002	159,000	1.35	0.52	3.03
1003	656,000	1.38	0.65	4.14
1004	-	-	-	-
All Zones	1,223,000	1.34	0.45	3.24

#### Table 17.48: Inferred Mineral Resources for Ridgetop Reported using a 1.50 % Cu Cut-off

Zone	Tonnes	Cu %	Au g/t	Ag g/t
1000	-	-	-	-
1001	65,000	1.8	0.1	2.34
1002	56,000	1.71	0.69	3.47
1003	190,000	1.81	1	5.48
1004	-	-	-	-
All Zones	310,000	1.79	0.75	4.46

## 17.5 Minto Mine Main Deposit Mineral Reserves

The Minto Main pit reserve estimate was compiled using the updated mineral resource model provided by LGGC. The model was imported into Mintec's MineSight® software for the reserve calculation. The mineral reserve calculation was bounded by the 2007 year-end survey surface and the most current ultimate Main pit design surface. A cut-off grade of 0.62% copper was used. The mineral reserve summary was based on measured and indicated mineral resource classifications totalled within ore zones 2, 4, 5 and 8 in the Main deposit. Details of the historical Area 2 mineral reserve estimate are provided in the previously released PFS.

The mineral reserves are summarized in Tables 17.49 through to 17.51 below for both the Main pit and Area 2 pits.

#### Table 17.49: Minto - Mineral Reserves by Class for Main/Area 2 (at 0.62% Cu cut-off)

Classification	Tonnes (000's)	Copper (%)	Gold (g/t)	Silver (g/t)	Contained Cu (000's lbs)*	Contained Gold (000's oz)*	Contained Silver (000's oz)*
Proven	8,219	2.01	0.77	7.98	364,400	203.6	2,110
Probable	910	1.24	0.46	5.40	24,800	13.3	159
Total (P&P)**	9,129	1.93	0.74	7.73	389,200	216.9	2,267

\*Rounded to nearest thousand \*\*Totals may not add exactly due to rounding

#### Table 17.50: Minto - Mineral Reserves by Class for Main Pit (at 0.62% Cu cut-off)

Classification	Tonnes (000's)	Copper (%)	Gold (g/t)	Silver (g/t)	Contained Cu (000's lbs)*	Contained Gold (000's oz)*	Contained Silver (000's oz)*
Proven	5,416	2.22	0.83	9.16	265,500	145.0	1,595
Probable	359	1.27	0.48	6.82	10,000	5.5	79
Total (P&P)**	5,774	2.16	0.81	9.01	275,500	150.5	1,673

\*Rounded to nearest thousand \*\*Totals may not add exactly due to rounding

#### Table 17.51: Minto - Mineral Reserves by Class for Area 2 (at 0.62% Cu cut-off)

Classification	Tonnes (000's)	Copper (%)	Gold (g/t)	Silver (g/t)	Contained Cu (000's lbs)*	Contained Gold (000's oz)*	Contained Silver (000's oz)*
Proven	2,803	1.60	0.65	5.71	98,900	58.6	515
Probable	552	1.22	0.44	4.48	14,800	7.8	80
Total (P&P)**	3,355	1.54	0.62	5.51	113,700	66.4	594

\*Rounded to nearest thousand \*\*Totals may not add exactly due to rounding

## **18 Other Relevant Data and Information**

### **18.1 Electrical Power**

The Minto Mine will be connected to the Yukon Energy grid power in the fall of 2008, eliminating the mine's reliance on diesel-generated power. The mine will be connected to a new 172 km long. 138 KV powerline being built from Carmacks to Stewart Crossing. This line is being built in two phases: Carmacks-Minto-Landing-Pelly Crossing and later Pelly Crossing-Stewart Crossing. In addition, a 32 km 34 KV spur line is being constructed from Minto Landing to the Minto Mine. Visual inspection by SRK of the power line construction showed that most, if not all of the poles had been complete from Carmacks to the Minto Mine and some wire had been strung. The project is on schedule with completion expected in late fall 2008.

The rates for electrical power supply for Minto are based on a power purchase agreement ("PPA") with the highlights as follows:

- Over the term of the agreement, MintoEx would pay for the cost of the transmission spur line to the Minto mine site, estimated to be about \$8.8 million.
- Contribute \$7.2 M to the construction of the Carmacks to Stewart line
- The Yukon Development Corporation agrees to cover the financing risks related to the Minto capital contribution payments to Yukon Energy Corporation. Yukon Development Corporation will also be responsible for any risk that the amount of the Company's contribution for the main line may increase beyond \$7.2 million, agreed to in the PPA.
- MintoEx has, during the operation of the mine, committed to provide an \$850,000 payment contribution, which will be placed into a fund established by Yukon Energy to cover decommissioning costs at the end of the mine life.
- Power costs at a fixed rate to the end of 2012 of \$0.10/kwh, which would escalate on an annual basis in accordance with an inflation measure. Beyond 2012, power rates will be as established by the Yukon Utilities Board for industrial users;
- Take or pay of \$12 million worth of energy over four years;
- MintoEx would also be provided an opportunity to purchase interruptible power for the processing of its low-grade ore at rates estimated at \$0.06 per KWh, without priority over other secondary energy customers. This will increase the likelihood that the low-grade ore will be economic to process and therefore provide added revenue benefits to both parties.
- Yukon Energy has the right to acquire the diesel generator units currently at the Minto Mine for the purpose of providing peak power to the grid system while providing reliability benefits to Minto.

## 18.2 Reconciliation of Reserves

The extensive use of stockpiles at Minto makes the reconciliation of the mineral reserve estimate to actual production results difficult. At the time of this report, the stockpiled ore amounted to approximately 550,000 tonnes. Sampling of the stockpiles has not been conducted and would not be representative of the stockpile grade unless a very large number of samples were taken which is not practical.

The reconciliation of mineral reserve block model grades versus blasthole drill cuttings samples is the only reconciliation possible at Minto. The reconciliation only includes copper results as blasthole cuttings are not assayed for gold and only recently being assayed for silver. The data from the monthly reports as provided by Minto personnel is summarized in Table 18.1 below. The blasthole samples volume is calculated using the area of each ore polygon multiplied by weight averaged depth of blast holes.

Period	Block Model		Blasthole samples		Cu grade variance	Volume variance	
	Volume (bcm)	Cu %	Volume (bcm)	Cu %	Blasthole vs BM	Blasthole vs BM	
Jun-07	24,047	1.20	34,378	1.16	-3.2%	43.0%	
Jul-07	53,830	1.40	61,557	1.61	15.3%	14.4%	
Aug-07	71,329	1.75	99,350	1.83	4.6%	39.3%	
Sep-07	58,333	1.90	50,803	1.75	-7.7%	-12.9%	
Oct-07	13,372	2.57	17,672	2.63	2.3%	32.2%	
Nov-07	19,551	2.32	15,503	2.46	6.0%	-20.7%	
Dec-07	14,794	1.19	11,839	1.11	-6.5%	-20.0%	
Jan-08	16,606	2.76	25,546	2.71	-1.6%	53.8%	
Feb-08	52,556	3.68	56,829	3.76	2.1%	8.1%	
Mar-08	34,089	4.92	35,209	3.88	-21.2%	3.3%	
Apr-08	0	-	-	-	-	-	
May-08	0	-	-	-	-	-	
Life of Mine	358,507	2.35	408,686	2.27	-3.6%	14.0%	

#### Table 18.1: Monthly Reconciliation

Although there is variation from month to month, the overall results of the preliminary reconciliation at Minto shows that the production grade is approximately 3.6% lower than the block model and the tonnes are 14% greater than the block model. This result indicates that there may be slightly greater actual mining dilution than was assumed in the mineral reserve estimate block model. Overall, the total copper content of the ore seems to be slightly greater than originally modeled.

The reconciliation of the Minto resource will benefit from continued analyses as more data is captured but at the moment does not indicate any unusual results and are within industry norms.

## 19 Additional Requirements for Technical Reports on Development Properties and Production Properties

## 19.1 Mine Operating Plan

### 19.1.1 Mine Design

The Minto Mine currently encompasses two open pits, Minto Main pit ("Main") which is currently being mined, and Area 2 pit as outlined in the overall site plan illustrated in Figure 19.1 below. The expanded Area 2, Area 118 and Ridgetop resources defined in 2007 that are the subject of this report have not been considered in the LOM plan as they have not been the subject of a preliminary feasibility study and have, therefore, not reached the reserve category. An updated preliminary feasibility study for these resource additions, plus any additions from currently on-going 2008 drilling, is planned to commence once 2008 drilling is complete, resources re-estimated and mine planning updated.

The combined 3D mineral resource model of the Main and Area 2 was used as the basis for deriving the economic pit limits. A number of calculations were performed on the resource model in order to determine the net smelter return ("NSR") of each individual block based on a number of parameters (e.g. metal price, grade, recovery, treatment and refining charges). The ultimate economic pit limit was based on a Lerchs-Grossman ("LG") pit optimization evaluation of the resources in the NSR model. The evaluation included the aforementioned NSR calculations as well as geotechnical parameters (summarized in Table 19.1 below) and mining/milling costs. The basic designs of the pits vary according to the wall orientation but, in general, the design parameters shown in Table 19.1 are used. The 30° slope angles apply to the portion of the pits in overburden.

Parameter	Value			
Bench height	24m			
Berm width	10m			
Face angle	70°			
Mining face height	12m (6m in ore)			
Main ramp width	22.5m			
Secondary ramp width	16m			
Maximum ramp gradient	10%			
Inter-ramp slope angle	30°-57°			
Overall slope angle	30°-54°			

#### **Table 19.1: Open Pit Design Parameters**

The economic pit limits were constrained to only consider measured and indicated reserve class material. An analysis of the NSR-based optimized LG pit shells was conducted and a final pit shell

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selected as the basis of further detailed pit designs to arrive at the final pit configurations shown in Figure 19.1.

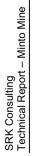
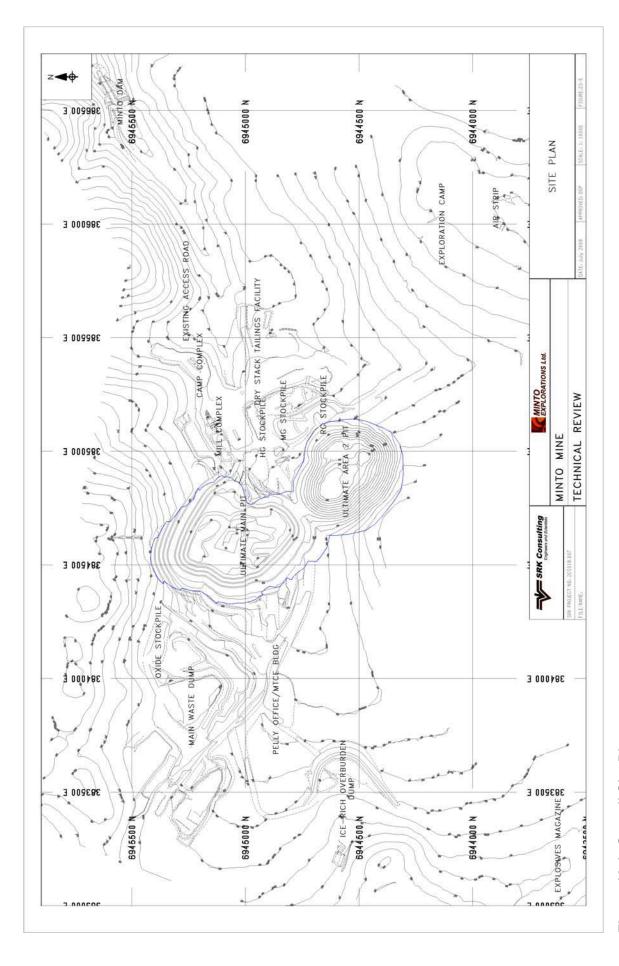




Figure 19.1: Overall Site Plan



Page 168

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### 19.1.2 Mine Operation

Minto mine uses conventional open pit mining techniques and equipment for all of its ore and waste extraction and is undertaken by a contract mining company. Minto Exploration and Pelly Construction have entered a long term agreement for the open pit mining activities. The existing open pit fleet of contractor equipment is shown in Table 19.2. Variations in production and stripping levels will be handled by the contract mining company. After the pits are depleted, the mining equipment required on site will be reduced, as only loading and hauling from the low grade stockpiles to the crusher will be required. The proposed mill upgrade to 3,500 tpd will not demand more mining equipment than is already on site. The Pelly fleet has an approximate capacity of 13,000 bcm/day, which will be sufficient for the LOM plan. Pelly Construction also maintains a shop facility on site with the cost included in the unit rates.

Approximately 60% of ore from the pits is hauled directly to the crusher feeding the mill. 40% of the mined ore goes to various temporary stockpiles according to the graded characteristics of the ore. The stockpiles in the LOM plan are used to blend ore going to the plant to maximize copper head grade.

Туре	Make	Model	Number	Capacity	
Trucks	Caterpillar	777D	6	90	tonnes
TTUCKS	Caterpillar	769C	7	35	tonnes
	Caterpillar	992G	1	16	yd <sup>3</sup>
Loodoro/Excovatoro	Caterpillar	988B	1	8	yd <sup>3</sup>
Loaders/Excavators	Caterpillar	385	2	6	yd <sup>3</sup>
	Caterpillar	330	2	3	yd <sup>3</sup>
Drilling	Ingersoll Rand	DML45	1		
Drining	Ingersoll Rand	ECM690	1		
	Caterpillar Bulldozer	D11R	1		
	Caterpillar Bulldozer	D10N	2		
	Caterpillar Bulldozer	D9L	1		
Support	Caterpillar Bulldozer	D8L	1		
	Caterpillar Grader	16G	1		
	Caterpillar Grader	14G	1		
	Caterpillar Scraper	631D	1		

#### Table 19.2: Open Pit Mobile Equipment Fleet

The I.R. DML45 drill performs the majority of the production drilling in the mine, utilizing a downthe-hole hammer and a 10" diameter bit. The I.R. ECM690 hydraulic drill with a 4" diameter bit is be used for secondary blasting requirements and may be used on the tighter spaced patterns required for ore blasts. The main loading and haulage fleet consists of Cat 777D haul trucks, which are loaded with the Cat 992G loader or the Cat 385 excavator, depending on pit conditions. The fleet of Cat 769C haul trucks supplement the main haulage fleet, if and when necessary. As pit conditions dictate, the Cat D11R and Cat D10N dozers are used to rip and push material to the excavators, as well as maintaining the waste dumps. The additional equipment listed in Table 19.3 are used to maintain and build access roads, along with various site facility requirements, including ore stockpile maintenance, tailings storage construction and maintenance, as well as further exploration development. The work schedule is based on two twelve hour shifts, seven days a week.

#### **Grade Control**

In order to minimize ore dilution, maximize ore recovery, and thereby improve the operation's overall economics, grade control plays an important role throughout the mining process at Minto.

Grade control begins with the proper identification of the ore/waste zones and contacts in the field through; information obtained from up-to-date 3-D resource model; blast hole sampling; driller reports; face sampling (includes mapping, visual inspections, sampling); and trenching (as required, to provide better definition of ore/waste contacts, sampling). During the drilling of the 6m benches in the ore zone of Phase 1 Main pit, one sample per blasthole was collected for analysis.

Once the above information has been gathered and compiled it is communicated to operational personnel through daily/weekly production meetings; detailed "dig" maps – outlining ore zones, waste contacts, faults, field surveying and layout of dig limits, ore contacts and any trenching required.

In order to maintain the effectiveness of the grade control process; regular field inspections are undertaken by engineering/geology personnel and clear lines of communication are maintained with operational personnel, including equipment operators and front line supervisors.

As part of the grade control process, variable bench heights have been designed in order to maximize the ore recovery. These include: variable bench heights in waste in order to target the top of the ore zone and a varying bench height within the ore zones (during the mining of the ore zones in Phase 1 Main pit the mining bench height was reduced to 6m from the regular 12m high benches). Drill and blast control also plays an important role in order to minimize dilution of the ore zones during the blasting process (e.g. minimize heave in the ore zone). Minto personnel are working together with the blasting contractor, Dyno Nobel, in an ongoing basis to continually improve overall blast performance.

#### **19.1.3 Production Schedule**

#### **Mine Sequence/Phasing**

Mining commenced with pre-stripping in the Main pit in 2006 with the first ore produced in mid 2007. The Main pit was divided into 5 phases or pushbacks in order to achieve the LOM plan targets. At the time of Pilotto's site visit in July 2008, Phase 1 and 2 had, except for 20Kt of ore in the bottom of Phase 1, essentially been completed (pit bottom at the 736m elevation) and Phase 3 was currently being mined at the 796m elevation (north wall pushback). Completion of the remaining three phases of the Main pit is scheduled to be in 2011.

Area 2 will commence once mining nears completion in the Main pit (in year 2011). The Area 2 pit has been scheduled in three phases with mining to be completed in early 2015. Waste material from Area 2 is to be backfilled into the Main pit, thereby, significantly reducing the Area 2 waste haul distances required and reducing the waste dump impact on the environment. The 2008 LOM plan has a slight overlap with the final ore benches of the Main pit being completed when the pre-stripping commences in Area 2. Further detailed engineering is required in order to determine if this requires that some initial waste production from Area 2 be hauled to an alternative location or if it can be backfilled into the Main pit while mining nears completion in the lower reaches of the pit.

The design phase tonnages and associated grades (based on copper cut-off grade of 0.62%) and metal recoveries of the Main pit and Area 2 LOM plan are summarized in Table 19.4 and Figure 19.2. The quantities summarized exclude 2008 actual budget figures and are phase design mine production values from the LOM plan for 2008 through to 2015 (remaining three phases of the Main pit along with the three phases in Area 2). Figure 19.2 illustrates the phase layout on elevation 790 for both the Main pit as well as Area 2.

The phase designs appear to be designed to maintain reasonable mining widths throughout the schedule in order to maintain productive headings both in ore and waste. Area 2 is a higher strip ratio pit when compared to the Main pit along with slightly lower grades. Currently, the sequencing of Area 2 is in the pre-feasibility stage and, as such, will require further detailed engineering in terms of final phase configurations, ramp designs, minimum mining widths, and ore release.

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Phase         Insitu Ore         Waste         Total         Strip         Strip           Mnt         Mnt         Mnt         Mnt         Mnt         (1:1)         CL           Main - Phase3         2.51         8.12         10.62         3.2         2           Main - Phase4         1.79         9.68         11.47         5.4         1           Main - Phase5         1.26         6.58         7.84         5.2         1           Subtotal Main only         5.55         24.38         29.93         4.4         1           Area 2 - Phase6&7         1.92         16.39         18.31         8.6         1         1           Area 2 - Phase8         1.44         17.08         18.52         11.99         1         1           Subtotal Area 2 only         3.36         33.47         36.82         10.0         1							Pha	Phase Quantities	S					
Mt         Mt         Mt         (t:t)           2.51         8.12         10.62         3.2           1.79         9.68         11.47         5.4           1.79         9.68         7.84         5.2           1.26         6.58         7.84         5.2           5.55         24.38         29.93         4.4           1.92         16.39         18.31         8.6           1.44         17.08         18.52         11.9           3.36         33.47         36.82         10.0	Phase	Insitu Ore	Waste	Total	Strip ratio		Ore grade		Σ	Mill Recovery		Rec	Recovered Metal	a
2.51     8.12     10.62     3.2       1.79     9.68     11.47     5.4       1.26     6.58     7.84     5.2       5.55     24.38     29.93     4.4       1.92     16.39     18.31     8.6       1.44     17.08     18.52     11.9       3.36     33.47     36.82     10.0		Mt	Mt	Mt	(t:t)	Cu %	Au (g/t)	Ag (g/t)	cu	Au	Ag	Cu (M Ibs)	Au (oz)	Ag (oz)
1.79         9.68         11.47         5.4           1.26         6.58         7.84         5.2           5.55         24.38         29.93         4.4           1.92         16.39         18.31         8.6           1.44         17.08         18.31         8.6           3.36         33.47         36.82         10.0	Main - Phase3	2.51	8.12	10.62	3.2	2.57	0.99	10.92	94.0	72.3	92.6	133.2	57,675	815,115
1.26         6.58         7.84         5.2           5.55         24.38         29.93         4.4           1.92         16.39         18.31         8.6           1.44         17.08         18.52         11.9           3.36         33.47         36.82         10.0	Main - Phase4	1.79	9.68	11.47	5.4	1.44	0.37	5.73	92.0	69.7	92.6	52.0	14,901	304,842
5.55         24.38         29.93         4.4           1.92         16.39         18.31         8.6           1.44         17.08         18.52         11.9           3.36         33.47         36.82         10.0	Main - Phase5	1.26	6.58	7.84	5.2	1.63	0.70	6.39	92.4	70.3	92.6	41.8	20,047	240,051
1.92         16.39         18.31         8.6           1.44         17.08         18.52         11.9           3.36         33.47         36.82         10.0	Subtotal Main only	5.55	24.38	29.93	4.4	1.99	0.73	8.23	93.0	71.0	92.6	227.0	92,623	1,360,008
1.44         17.08         18.52         11.9           3.36         33.47         36.82         10.0	Area 2 - Phase6&7	1.92	16.39	18.31	8.6	1.60	0.66	6.06	92.4	70.2	92.6	62.4	28,359	345,657
3.36 33.47 36.82 10.0	Area 2 - Phase8	1.44	17.08	18.52	11.9	1.47	0.56	4.71	92.1	69.8	92.6	42.9	18,266	202,224
	Subtotal Area 2 only	3.36	33.47	36.82	10.0	1.54	0.62	5.48	92.2	70.0	92.6	105.2	46,625	547,881
Grand total 8.91 57.84 66.75 6.5 1.	Grand total	8.91	57.84	66.75	6.5	1.82	0.69	7.19	92.7	70.6	92.6	332.2	139,248	1,907,888

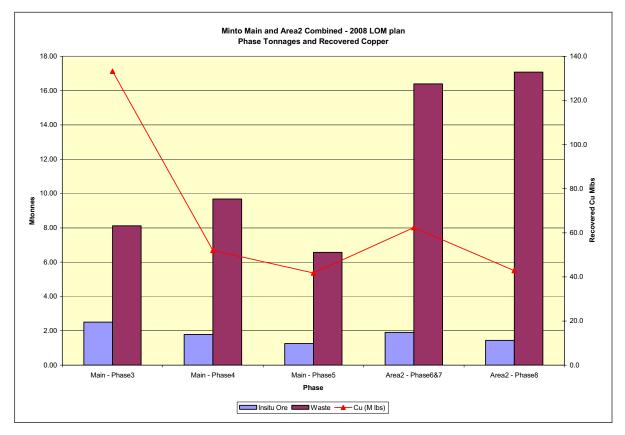


Figure 19.2: Phase Tonnages and Copper Recovery



#### Figure 19.3: Minto Phase Configuration

#### LOM Schedule

The LOM schedule is summarized in Table 19.4 and Figure 19.4 below using a copper cut-off grade of 0.62%. The current mine reserves (as of beginning of 2008) give the Minto mine (Main and Area 2 pits combined) approximately 8 more years of operating life to early 2015. The processing of the stockpiled material is schedule to continue for approximately another year until early 2016. The

2008 LOM plan shows 70.6 Mt of total material, ore and waste, mined including 9.2 Mt of ore for an overall strip ratio of 6.7:1 tonnes waste ore. A total of 9.7 Mt of ore is planned to be processed at an average mill feed grade of 1.86% Cu, 0.68 g/t Au, and 7.32 g/t Ag. This results in 370.4 Mlbs of copper recovered, approximately 158,000 oz of gold and 1,950,000 oz of silver.

The Minto LOM operating plan was developed to meet several specific objectives of mine management such as maximizing net present value, mining higher grade zones in early years of operation, generating positive cash flows each year, minimizing capital expenditures, minimizing risk and targeting exploration in the surrounding areas. The average daily total material mined for the LOM plan is approximately 10,700 bcm/day (or 27,500 tonnes/day). The processing target is 2,900 t/day for 2008, with a mill expansion planned to increase throughput to 3,200 t/day for 2009 through to 2011 (end of Main pit), followed by a further mill expansion to increase throughput to 3,500 t/day for 2012 through to the end of the LOM plan in 2016.

The total mine production for the Main pit in the LOM schedule varies slightly from the mineral reserve estimates previously noted. This may be attributable to the 2008 actual production values that were provided and formed part of the mining production in the LOM plan for 2008.

The LOM schedule is based on whole bench tonnages and grades and will require further detailed engineering of individual mining cuts for budgeting purposes. This fine tuning of the mining sequence will ensure that mined tonnages and grades will be able to meet the specified targets. The large increase in strip ratio in year 2011 is a function of the commencement of pre-stripping in the Area 2 pit.

		•	•		-						
ltem	Unit	2008*	2009	2010	2011	2012	2013	2014	2015	2016	Total
Mining											
Mined Ore	Mt	1.51	1.26	2.67	0.40	0.81	1.27	1.12	0.14	-	9.18
Mined Waste	Mt	9.26	10.11	8.05	10.15	10.35	9.97	3.50	0.02	-	61.41
Total Material	Mt	10.77	11.37	10.73	10.55	11.16	11.25	4.62	0.15	-	70.59
Strip Ratio	Wt:Ot	6.1	8.0	3.0	25.5	12.9	7.8	3.1	0.1	-	6.7
Daily mine prod.	t/day	29,433	31,159	29,384	28,894	30,565	30,814	12,652	15,241	-	27,523
Processing											
Processed Ore	Mt	0.88	1.17	1.17	1.17	1.28	1.28	1.28	1.28	0.21	9.70
Processing rate	dmt/day	2,392	3,200	3,200	3,200	3,500	3,500	3,500	3,500	3,420	3,252
Proc. Cu grade	%	3.14	2.98	2.40	1.48	1.67	1.57	1.38	0.95	0.80	1.86
Proc. Au grade	g/t	1.03	1.16	0.81	0.55	0.67	0.61	0.51	0.30	0.22	0.68
Proc. Ag grade	g/t	13.10	12.71	9.67	5.76	7.12	5.35	4.49	3.42	3.00	7.32
Cu recovery	%	93.7	94.0	94.0	94.0	91.9	91.9	91.9	91.9	91.9	92.8
Au recovery	%	77.2	80.0	80.0	80.0	68.8	68.8	68.8	68.8	68.8	73.6
Ag recovery	%	87.5	86.7	86.7	86.7	82.7	82.7	82.7	82.7	82.7	84.6
Cu recovered	Mlbs	56.7	72.1	58.2	35.8	43.2	40.6	35.7	24.6	3.4	370.4
Au recovered	Koz	22.3	35.0	24.2	16.5	18.9	17.2	14.4	8.5	1.0	158.1
Ag recovered	Koz	326	414	315	189	241	180	153	116	17	1,950

#### Table 19.4: LOM Operating Plan Summary

\*2008 includes actuals from Jan-July

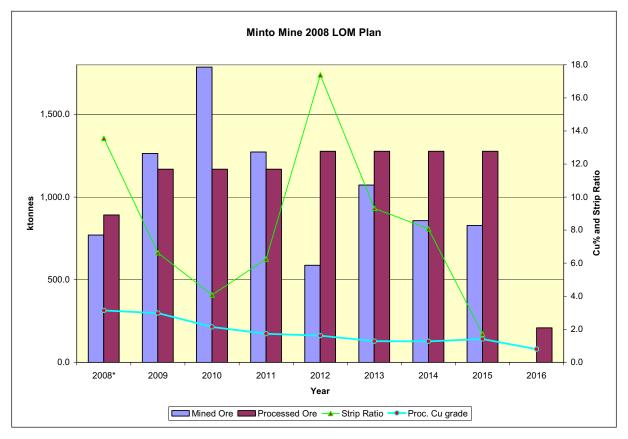
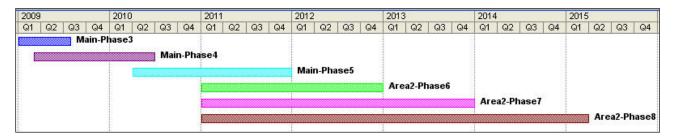


Figure 19.4: Minto 2008 LOM Plan

Figure 19.5 below illustrates the 2008 LOM schedule (from the start of 2009) in terms of the sequence and durations of mining for each phase. The current plan has up to four phases active at any one point in time. With the relatively small footprint of Area 2 pit, further detailed engineering is required in terms of ensuring that the schedule will allow for adequate allocation of equipment and personnel resources and limit the number of active mining faces. The mining phases and schedule are designed so that when the lower benches and reduced strip ratios of one phase are active the next phase of stripping is commenced. This is required to balance strip ratios and provide the required ore mill feed throughout the schedule.



## Figure 19.5: Phase Sequence

The LOM schedule is further illustrated in Figure 19.6 below in terms of number of benches mined per annum for each phase. The average number of benches mined per phase in any one given year is

5 (maximum of 12). This annual advance is within industry norms and should not present any challenges in terms of sequencing of the mining cycle (drill, blast, load, haul). However, as mentioned above further work should be conducted in order to ensure that the phase designs and schedule will allow for four phases in Area 2 to be mined within the same one year period (e.g. year 2011).

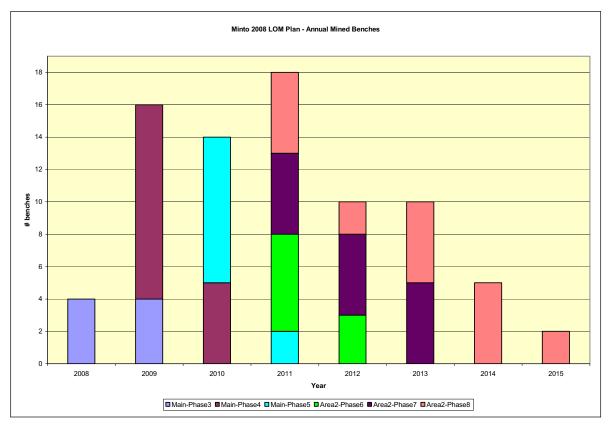


Figure 19.6: Annual Benches Mined

## **Ore Stockpiles**

Several ore stockpiles exist on the property that will be active throughout the LOM plan. The stockpiles are defined in terms of estimated copper grade mined as shown in Table 19.5 below and their locations are noted on the site plan (Figure 19.1 above).

Stockpile	Copper grade (%)
Low grade – Blue	0.62-1.0
Regular grade- Green	1.0-2.0
Medium grade – Yellow	2.0-4.0
High grade – Red	greater than 4.0

The ore stockpile balance as of the end of May 2008 is summarized in Table 19.6 below. The ending stockpile balance is determined from material movements to and from the stockpiles and is based on

a combination of load counts, truck counts as well as surveys of the individual stockpiles. The grades are determined from blasthole assays.

Stockpile	Survey Volume (Icm)	Swell (%)	Volume (bcm)	Density (t/m³)	Tonnage (t)	Cu (%)	Ag (g/t)
Blue	35,200	40%	25,100	2.734	68,700	0.80	2.9
Green	181,100	40%	129,400	2.734	353,700	1.30	4.7
Yellow	57,300	40%	40,900	2.734	111,900	2.66	10.0
Red	200	40%	100	2.734	400	5.02	22.6
Crusher	6,400	40%	4,600	2.734	12,500	2.66	10.0
Total	280,300		200,200		547,300	1.55	5.7

The stockpile material will be used to supplement open pit ore throughout the schedule and allow for increased flexibility in the mine plan while providing the highest grade mill feed possible. When the ore from the open pits is exhausted in early 2015, the mill will be fed exclusively from these stockpiles. Table 19.7 below summarizes the yearly stockpile inventories from the end of 2008 through to the end of the LOM plan. As illustrated by the lack of year end inventories, the high grade ores are fed to the mill as they are exposed in the pits in order to maintain the ore production at the highest possible head grade while mining. The low grade stockpile increases in inventory until it is used for the primary mill feed in the later part of the schedule.

Stockpile	Unit	2008	2009	2010	2011	2012	2013	2014	2015
Red	Ore (Kt)	124	-	-	-	-	-	-	-
	Cu%	5.28	-	-	-	-	-	-	-
	Au (g/t)	1.90	-	-	-	-	-	-	-
	Ag (g/t)	25.22	-	-	-	-	-	-	-
Yellow	Ore (Kt)	454	277	-	-	-	-	-	-
	Cu%	2.83	2.84	-	-	-	-	-	-
	Au (g/t)	1.03	1.15	-	-	-	-	-	-
	Ag (g/t)	11.99	11.88	-	-	-	-	-	-
Green	Ore (Kt)	456	691	1,692	827	111	-	-	-
	Cu%	1.48	1.45	1.44	1.44	1.44	-	-	-
	Au (g/t)	0.25	0.42	0.48	0.48	0.48	-	-	-
	Ag (g/t)	5.49	5.38	5.56	5.56	5.56	-	-	-
Blue	Ore (Kt)	121	287	1,069	1,164	1,408	1,513	1,353	212
	Cu%	0.81	0.81	0.80	0.80	0.80	0.80	0.80	0.80
	Au (g/t)	0.17	0.22	0.22	0.22	0.22	0.22	0.22	0.22
	Ag (g/t)	3.98	3.37	3.21	3.19	3.06	3.00	3.00	3.00
Total	Ore (Kt)	1,155	1,255	2,761	1,991	1,519	1,513	1,353	212
	Cu%	2.35	1.61	1.19	1.07	0.85	0.80	0.80	0.80
	Au (g/t)	0.73	0.54	0.38	0.33	0.24	0.22	0.22	0.22
	Ag (g/t)	10.00	6.36	4.65	4.17	3.25	3.00	3.00	3.00

Table 19.7: LOM Plan Stockpile Inventory

#### Waste Management

The Main waste dump, low grade stockpile, and ice-rich overburden dump ("IROD") are based on existing designs derived from the Minto Main Feasibility and their locations are noted on the site plan in Figure 19.1 above. The Main pit backfill dumps will be composed primarily of waste material from Area 2. An additional dump has recently been created directly west of the Main dump that contains overburden material.

Waste rock from the Main pit will be deposited in an expansion of the existing waste dump areas. Area 2 waste rock and tailings is proposed to be co-deposited into the Main pit when Main pit mining nears completion. The 2008 LOM plan has a slight overlap with the final ore benches of the Main pit being completed when the pre-stripping commences in Area 2. Further detailed engineering is recommended in order to determine if this requires that some initial waste production from Area 2 be hauled to an alternative location or if it can be backfilled into the Main pit while mining nears completion in the lower reaches of the pit.

The 2008 LOM plan did not include annual waste dump progressions nor did it include an analysis of waste haul distances. As with most open pit mines, the management of waste production and placement plays an important role in the overall economic success of an operation. An important waste rock disposal option, located in the upper Minto Creek Valley, is being investigated and, if deemed feasible, would offer a considerable improvement in the waste haulage cycle for the trucking

of waste out of the Main pit. Further detailed waste dump designs and annual progressions would provide a useful tool for managing the various streams of waste material produced from the Minto pits.

Tailings from the mill will be sent to the currently permitted existing dry-stack location and two unpermitted locations; an adjacent paste fill containment area and backfilled into the Minto Main and Area 2 pits, after they are mined out. Again the 2008 LOM plan did not provide detailed dump progressions for this tailings facility. Currently, Pelly Construction is responsible for the loading, hauling and dumping of mill tailings. Consideration is being given by Minto personnel to revise this and separate out the overall management of the dry stack facility in order to deal with the transport and placement of the mill tailings and assist in reducing overall onsite costs.

#### Main Waste Dump

The Main Waste dump, as described in the Minto Main Feasibility, is located on a south-facing slope west of the Main pit. This dump includes waste rock as well as thaw-stable overburden from the Main pit. The dump is constructed by placing material at its natural angle of repose (approximately 1.5H:1V) with safety berms spaced at regular 15 m (vertical) intervals. The berms are designed with a minimum width of 7.5 m. The Minto Main Feasibility ultimate dump design had a final crest elevation of 960 m. At the time of Pilotto's site visit, the Main Waste dump platform elevation was approximately at the 910 m elevation. The dump is visually inspected on a daily basis to ensure stability. Surveyed toe stakes were noted in the field in order to ensure that the dump design was being adhered to.

As mentioned above, the upper Minto Creek Valley would offer a considerable improvement in the waste haulage cycle for the trucking of waste out of the Main pit.

An additional dump has been recently created directly east of the Main dump and contains overburden material. The material contained within this dump is planned to be used for reclamation purposes as required. The design of a detailed waste management plan for the LOM plan as well as for mine closure should address all of these waste dumps.

#### Low Grade Stockpile

The low grade stockpile, as per the Minto Main Feasibility, lies between the Main Waste dump and the Main pit ultimate limit. Its design configuration follows the same parameters of the Main Waste dump described above. Material that is hauled to this location includes; sulphide ore less than the copper cut-off grade of 0.62% Cu but above 0.5% Cu; all oxide ore; and partially oxidized material with a copper grade of less than 1.0% Cu but above 0.5% Cu. At the time of Pilotto's site, visit the low grade stockpile platform elevation was approximately at the 904 m elevation.

#### Ice-Rich Overburden Dump

This dump, as designed in the Minto Main Feasibility, was to contain ice-rich overburden material excavated, primarily, from the southern highwall of the Main pit. There was concern that once this material begins to melt it could begin to flow if not contained. As such, a containment berm was constructed to the south west of the Main pit, in an area of shallow overburden. The berm was constructed to a final elevation of 890 m with a minimum crest width of 6 m. It should be noted that only the total overburden has been modeled to date and that the quantity or extent of the ice-rich overburden has not been clearly defined.

To date, no ice-rich overburden material has been placed in this dump. Instead the dump was used for storage of mill tailings during the initial stages of start-up while issues with the tailings filtering system were remedied. The current plan is to remove these tailings from this dump and haul them to the dry stack storage facility. The ice-rich overburden material that has been encountered to date has been placed on the Main Waste dump and has been blended in with other waste rock generated from the Main pit. No apparent issues with the overall stability of the Main Waste dump have been noted to date with the addition of this ice-rich overburden material.

#### Main Pit Backfill Dumps

The LOM Plan has the Main Pit backfill dumps being comprised of all waste material from Area 2. This will include all waste rock, overburden and any ice-rich overburden encountered (the excavation left behind from the mining of the Main pit will provide adequate containment for all material types). The backfill dumps will be built in a series of lifts, with the ultimate face configuration as per the Main waste dump described above. The co-deposition of tailings into the Main pit will allow the filling of waste rock void spaces with slurried tailings.

# 19.2 Recoverability

The Minto ore is relatively simple to process and is well suited to the existing process plant. Further improvements and optimization are expected as greater processing and metallurgical experience is gained. The LOM plan flotation plant performance assumptions, shown in Table 19.8, are based on 2008 and the Area 2 metallurgical test results.

Metal	Unit	2008	2009 +
Main Pit			
Copper	%	93.6	94
Gold	%	80	80
Silver	%	86.7	86.7
Area 2			
Copper	%	91	91
Gold	%	64	64
Silver	%	81	81

#### Table 19.8: Metal Recovery Assumptions

## 19.3 Markets

Minto currently has two marketing contracts for the sale of concentrates and metals.

#### 19.3.1 Concentrate Sales

Minto has an established concentrate purchase contract with MRI Trading AG ("MRI"). Under the terms of the contract, MRI has the obligation to buy all of Minto's concentrate production and Minto has the obligation to sell all of its concentrate production to MRI. The contract is in effect from July 2007 to June 2010. The contract may be extended by mutual agreement one or more years.

This study assumes that treatment charges will be US\$70.00/dmt of concentrate and US\$ 0.07/lb payable copper beyond June 2010.

#### 19.3.2 Metal Price Contract

Minto has metal price guarantee contracts with Macquarie Bank for copper, gold and silver production that are valid until the third quarter of 2011. The contracts have varying levels of metal take and metal price. A summary of the overall contract metal volumes and prices are shown in Table 19.9.

Metal	Total Hedged Metal	Average Contract Metal Price
Copper	50,408 tonnes	US\$ 5,519 /tonne
Gold	55,600 oz	US\$ 667 /oz
Silver	624,833 oz	US\$ 12.25 /oz

#### Table 19.9: Metal Price Hedging Contract Summary

## **19.4 Contracts**

Minto has several contracts for the supply of goods and services to the mine, concentrate sales and metal price guarantees. SRK reviewed the material Minto contracts and found them to be reasonable and within industry norms. A summary of some of the main contracts is shown in Table 19.10.

Company	Contract Coverage	Comments
MRI Trading AG	Concentrate purchase	Agreement to purchase all Minto concentrates up to June 2010. See Marketing Section
Macquarie Bank Ltd	Metal price guarantee (hedge)	Agreement to pay Minto pre-set metal prices for a portion of its metal production. See Marketing Section
Yukon Energy Corporation	Grid power	Minto agrees to purchase power from YEC, pay for a portion of the new transmission line and sell its 4 main existing diesel generators to YEC in exchange for YEC building the main new transmission line. MintoEx will fund the spur line from the grid transmission line to the minesite (further details in Section 18.1)
Dyno Nobel Canada Inc.	Explosive and accessory supply	Supply, storage, transportation and placement of explosives and accessories
Pelly Construction	Mining and mobile equipment supply	Pelly Construction performs all open pit mining functions at Minto and uses its ancillary equipment for various jobs on site. The contract is based on a per volume basis with adjustments for haul distance and grade.
Canadian Lynden Transport Co.	Concentrate transport	Provides terms and conditions for the road transportation of concentrates to Skagway, AK. Valid until the 2 <sup>nd</sup> Qtr, of 2014.
Great Northern Oil	Diesel supply	Transport and supply of diesel fuel.
Domco	Camp Services	Lodging and catering

#### Table 19.10: Significant Minto Contracts

#### **Contract Mining**

Minto and Pelly Construction have entered an agreement to the end of 2010 for open pit mining and support activities. The unit rate per bank cubic metre ("bcm") for loading, hauling and dumping ("LHD") is based on two standard haul criteria; haul distance and road gradient. Variations to the haul criteria greater than 10% lead to change in contract costs. LHD rates are exclusive of fuel, explosives and force account charges. Drilling and blasting costs for waste vary based on powder factor ("PF") requirements for various types of material but is generally categorized as ore, waste

and overburden (PF = kg of explosive per m<sup>3</sup> of material blasted), as well as the drilling equipment used.

The blasting is conducted by another contractor, Dyno Nobel Canada, who also ships, stores, blends delivers explosives on site and performs blast hole loading services.

The work performed by the contractors appeared to be of good quality and they have been an integral part of the mining operation for over two years. Pelly and Dyno combined maintain a workforce at Minto of between 30 and 40 people depending on the amount of work being done.

The Pelly and Dyno contracts do not contain productivity incentives. Pelly is paid per bcm moved for the pit fleet and per hour worked for force account equipment. This arrangement offers little in the way of financial gains to Minto should the efficiency of the contractor be improved. MintoEx is currently in discussions with Pelly on amending the contract to incorporate incentives and reduced costs as a result of efficiencies and actual experience achieved since the contract was initially executed. MintoEx anticipates overall unit costs can be reduced through this process; alternatively MintoEx has the option of rebidding the contract on its expiry or switching to self mining in order to achieve the cost reductions deemed reasonably appropriate.

One of the most significant force account items for the mine is the contracting of the dry-stacked tailings transport and placement. Pelly is currently doing this work on a cost per hour per machine basis. Minto management are currently reviewing alternates ways handling dry-stacked tailings to reduce cost of this task.

# 19.5 Environmental Considerations

## 19.5.1 Environmental Assessment and Permitting

MintoEx has completed extensive environmental and permitting work for the Minto Project. In December 1994, a four volume Initial Environmental Evaluation (IEE) was submitted under <u>Environmental Assessment and Review Process Guidelines Order</u> (EARPGO) to the Department of Indian Affairs & Northern Development (DIAND) for review. The IEE prepared by Hallam Knight Piesold (HKP, 1994), encompassed:

- *Volume I Development Plan* providing a general overview of the Minto Project;
- *Volume II Environmental Setting* which described the local environmental conditions and studies undertaken at the site since the 1970's;
- *Volume III Socio-Economic Description and Impact Assessment* describing socio-economic conditions and archaeological evaluation and impact assessment for the Minto Project; and
- *Volume IV Environmental Mitigation and Impact Assessment* was submitted in May 1995 and summarized the results of overburden and waste characterization studies.

The assessment indicated no acid generation potential as tailings solids and effluent test work indicated very low levels of metals present and showed solids that were strongly acid consuming. DIAND issued an EARPGO screening report decision on April 7, 1997, indicating that potentially

adverse environmental effects that may be caused by the project are mitigable, using known technology and that the project could proceed. The Type A Water License (QZ96-006) was issued in April 1998 and a Quartz Mining Production Licence (QML-9902) was issued in October 1999 for the Minto deposit. A Type B Water Use Licence application was issued in August 1996 for construction of the Yukon River barge landing sites, the Big Creek Bridge, and Minto Creek road culvert installations. A summary of the subsequent project assessments and licensing is provided below.

Water Use Licence QZ96-006 was amended (Amendment #1) to revise the decommissioning requirements for the project, and to request the submission of an interim plan as the project was not yet constructed. The project is still subject to Water Use Licence QZ96-006.

As the Type A Water Use Licence (QZ96-006), Type B Water Use Licence (MS95-013), and Yukon Quartz Mining Licence (QLM-9902) were set to expire in June 2006, and in recognition of the project development delays, licence amendment applications to extend the licenses to June 30, 2016 were filed with the YWB and Government of Yukon (GOY), Department of Energy, Mines & Resources (EMR) in October 2004.

In response to the amendment applications, GOY Development Assessment Branch completed a Yukon Environmental Assessment Act (YEAA) screening of the Type A Water Use Licence using the previous EARPGO screening and issued their screening report in March 2005.

The YWB completed a YEAA screening of the Type B application and subsequently issued the amended Type B Water Use Licence (MS04-227) in February 2005. GOY Development Assessment Branch completed a YEAA screening of the Type A Water Use Licence and Yukon Quartz Mining Licence using the previous EARPGO screening and issued their screening report in March 2005. The YWB issued the amended Type A Water Use License (QZ04-064) in September 2005 and GOY EMR issued amendments to the Yukon Quartz Mining License QLM-0001, Amendment No. 05-001 in December 2005 and Amendment No. 05-002 to change the mill rate to 2,500 tonne/day in October 2006. In July 2008, the Quartz Mining Licence was amended again to increase the mill rate to 3200 tonnes/day following a Yukon Environmental and Socio-economic Assessment Act (YESAA) review of the amendment request.

Generally the amended licences contain similar terms and conditions as the original licences and are typical of other Yukon mining licences. All of the above noted licences have an expiry date of June 30, 2016.

In addition, the Federal Metal Mining Effluent Regulations (MMER) under the Fisheries Act currently apply to the Minto mine. These Regulations are a law of general application and the requirements of this legislation are the responsibility of the Company. Generally, the Type A Water Use Licence is considered more restrictive that the MMER; however, separate reporting for effluent discharge and receiving water monitoring is required by the Federal Department of Environment Canada. MintoEx also has a number of minor authorizations to operate the facility including an air emissions permit, commercial dump permit, special waste permit and land treatment facility permit.

Project authorizations typically require the company to monitor environmental and physical performance and track key project statistics. The licences require the submission of various operation plans including Tailings Management Plan and Operational Surveillance Manual, Environmental Surveillance Monitoring Plan, Spill Contingency Plan and Detailed Decommissioning and Closure Plans. Key monthly reporting is provided to the YWB for all environmental surveillance programs and annual reports provided to the YWB and GOY EMR. All reports are provided to Selkirk First Nation (SFN). Generally the company has been in compliance with all their authorizations. There have been isolated exceedances of water use licence effluent discharge standards typical of mine start up and mitigative measures have been fully implemented by management to correct these events. The company is in full compliance with the MMER requirements.

MintoEx and the SFN have a Cooperation Agreement (CA) which establishes cooperation protocol with respect to permitting and environmental monitoring. Both parties are content with the CA progress to date.

MintoEx has initiated work on revisions necessary to various licences for development of the Area 2 zone. A YESAB Designated Office level of assessment will be required to support amendment applications to the Water Use and Quartz Mining Licences. As part of the licence amendment process, minor amendments will also made to the Type A Water Use Licence to streamline monitoring requirements and revision of effluent discharge standards that are more reflective of site and receiving waters. The company continues to work with SFN as it develops the licence amendment applications for the new development. As the Area 2 zone is an extension the Minto main deposit and exhibits similar geochemical characteristic it is expected that the environmental assessment and permitting process will be straight forward. The company maintains a good working relationship with regulatory agencies as noted by the timely approvals of previous licence amendment requests. These relationships will be relied upon for permitting of the Area 2 zone to ensure timely permitting.

Environmental challenges that the company is presently addressing is improved water management of clean and waste water streams to ensure operation of the reclaim pond with low metal contaminant levels. The property is somewhat unique in that an elaborate water treatment system is not in use even though effluent discharge criteria are restrictive. Best management practices and alternative treatment technologies are being used to ensure environmental compliance is achieved. Further refinements in these areas are expected to ensure continued performance in the long term.

## 19.5.2 Closure Plan

MEL has an approved Detailed Decommissioning plan for the site. This plan will be revised to include the Area 2 development and resubmitted to YG to ensure that the site liabilities are fully secured. Conceptually,

the Area 2 closure plan will adhere to the principles on which the Main Zone closure plan is based. The following points summarize the main incremental closure items that will result from development of the Area 2 ore body:

- The Main Zone pit will be backfilled with Area 2 waste rock and tailings. Backfill is expected to flood over time to the level of the lowest point on the rim of the Main Zone pit. The Area 2 rock dumps will roughly re-establish the cross-sectional profile of the valley that existed prior to excavation of the Main Zone pit. The waste dumps will be re-sloped and an appropriate self-sustaining vegetative cover will be established.
- A channel will be developed across the backfill to convey the flow of Minto Creek over the backfilled Main Zone pit and into the original channel downstream. This channel will be armoured with 1 m of riprap if the gradation of the granodiorite waste rock is not appropriate. There will be no requirement to line the channel to prevent seepage losses, as the channel will occupy the low point in the Minto Creek valley. Channel slopes will be covered in 0.25 cm of growth medium and re-vegetated with willows or other species as appropriate.
- The Area 2 pit will be excavated to a stable overall angle, and the highwall will be left in that state at closure. Benches above the 808 m level will be scarified to promote re-vegetation. Uncontrolled access to these benches will be prevented by placement of boulders up to 1 m in size at access points, or by other measures as appropriate, to prevent access. Berms will be constructed and signage will be placed around the pit rim as required to prevent inadvertent access.
- A lake will likely develop in the Area 2 pit post-closure, with a final lake surface elevation of approximately 808 m. Provision will be made to convey drainage to the valley bottom from the spill point at the northeast corner of the pit, as required. A schematic depiction of the flooded pit and discharge channel is shown in Figure 19.7. Water quality in the pit lake is expected to be low in dissolved solids, including metals, and to contain low levels of nutrients in the long term.
- Area 2 tailings will be contained within both the Main and Area 2 pits. The Main pit will be covered with a minimum of 1 m of waste rock at closure. The waste-rock covered tailings will be reclaimed as described above for Area 2 waste rock. The Area 2 pit will be only partially filled with tailings and will be left to flood to natural water levels (808 m elevation.).

Other than the Area 2 pit, the main zone backfill waste dumps and some incremental infrastructure, there will be no additional site component requirements due to the extraction of the Area 2 resource.

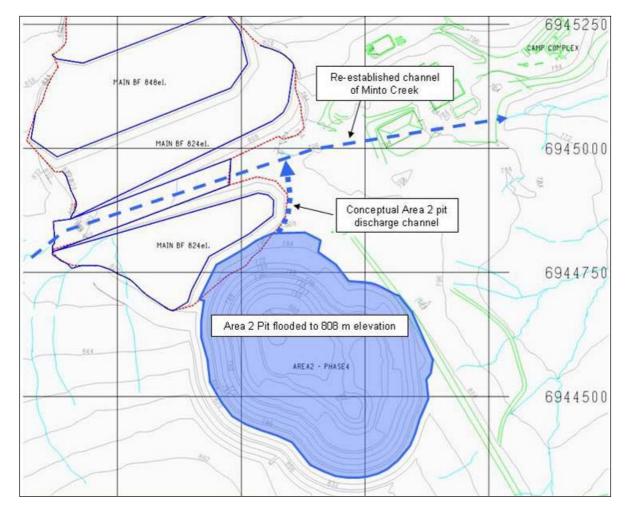


Figure 19.7: Schematic Plan Showing the Flooded Area 2, Routing of a Pit Discharge Channel and Routing of the Re-established Minto Creek

# 19.6 Taxes

Federal and Provincial tax calculations start with the before tax cash flow amounts from the cash flow portion of the model and essentially deducts the cost of building the mine and mill (Class 41 UCC, CEE and CDE) as would be expected over the life of the mine as allowed by the Canadian tax rules. Generally Class 41 UCC and CEE can be deducted 100% against profit from the mine while CDE can only be deducted on a declining balance basis at 30% per year. The losses that are generated in the first few years of mine operation are deducted against income in later years.

The Yukon Quartz Mining Royalty ("Yukon mining tax") is a much different tax calculation than would normally be expected. It also starts with before tax cash flow from the cash flow portion of the model and deducts depreciation at 15% per year on a declining balance basis for the mine capital assets and mill capital assets. It, however, does not have loss carryover provision. Taxes are paid at rates that increase as income increases.

The opening balances for the tax pools for both taxes are included in the cash flow model.

There is a circular calculation in the financial analysis since income tax is deductible for Yukon mining tax and Yukon mining tax is deductible for income tax.

Hedging gains and losses are not taken into account for taxation.

Since the model is based on operating cash flow the actual tax results may differ between periods from the model as concentrate shipment dates vary from the model.

# **19.7 Capital and Operating Costs**

## 19.7.1 Operating Costs ("OPEX")

With approximately one year of operation to reference, Minto has established adequate historical costs for budgeting purposes. Projections of future costs are based upon the anticipated production volume increases currently planned. Some of the Main cost assumptions in the LOM plan are shown in Table 19.11. SRK has reviewed the major cost items and found then to be reasonable.

Royalties paid to the Selkirk First Nation were included in operating costs and are defined as a 0.5% of Net Smelter Return.

Parameter	Unit	Value	Comment
Power			
Diesel fuel price (2008)	\$/litre delivered	1.30	Fuel price drops each year until 2012 when it reaches and maintains \$1.00/l
Diesel/electricity conversion	diesel litres/Kwhr	0.31	
Grid power cost	\$/Kwhr	0.105	Energy and demand
Power consumption	Kwhr/tonne milled	35	
Mining			
Mining rate	BCM/day	11,800	Ore and Waste Total
Mining load-haul-dump cost	\$/bcm	4.25	In 2011 the LHD cost estimate drops to \$3.75.bcm as a result of an anticipated new contract and improved mining efficiencies
Mineral Processing			
Mill throughput	tonnes/day	2,900	Remainder of 2008
Mill throughput	tonnes/day	3,200	2009, 2010, 2011 (Main pit feed)
Mill throughput	tonnes/day	3,500	2012+ (Area 2 feed)
Dry-stack tailings placement	\$/t milled	1.14	
Slurry tailings placement	\$/t milled	0.30	
Off site costs (excluding fixed port c	osts)		
Ocean Freight	US\$/wmt	105.00	
Trucking	\$/wmt	61.39	varies with fuel price
Assay and survey	US\$/wmt	2.22	
Wharfage	US\$/wmt	2.00	
Insurance	%	0.495	per \$1M cargo value

#### Table 19.11: Operating Cost Estimates and Assumptions

#### Mine OPEX

Mining costs are based on a mining contract with Pelly Construction and the explosives contract with Dyno Nobel Canada. The contract prices do not include fuel. There appears to be the potential for efficiency improvement with the mining contractor and Minto will be pursuing these with Pelly. A \$0.50/bcm cost reduction as a result of these efficiency improvements was budgeted in 2001 and later. It is SRK's opinion that this cost reduction estimate is justified and appropriate.

The unit mining cost over the life of the mine is \$3.02/t mined or \$7.85/bcm. Loading, hauling and dumping make up 65% of the total cost. Drilling and blasting is approximately 25% of the cost with mine administration, placement of dry-stacked tailings, dewatering and other costs making up 10% of the total.

#### Milling OPEX

Milling costs are based on historical consumable usage, with current costs applied. The unit milling costs are relatively constant through the mine life at approximately \$11/t milled. The main mill cost drivers are labour (38%), grinding (27%) and crushing (15%). Crushing costs assume 12 hr/day of crushing that are deemed achievable following process upgrades in 2008.

#### Site Services OPEX

Site services includes power generation, access (barge and road) and waste management (sewage and garbage). Site service operating costs are almost entirely (88%) driven by power costs. Once power grid is connected and diesel generation is not needed, power costs drop by \$600,000 to \$800,000 per month. Barge operations crossing the Yukon River account for about 10% of the site services budget. The LOM site services costs average around \$5.29/t milled.

#### **Camp Services OPEX**

Camp services costs derived from meals, janitorial and other minor services associate with the man camp. A cost of approximately \$38/man/day was used for the life of mine cash flow estimate.

#### **Technical Services OPEX**

Engineering, geology and environmental services (excluding labour) the are included in the technical service cost centre. The technical service budget is approximately \$1M per year and is flat for the LOM.

#### Administration OPEX

Administration costs encompass site management, health and safety, government affairs, SFN affairs, crew rotations and human resource costs. The average Administration cost is \$4.10/t milled.

Page 191

## 19.7.2 Capital ("CAPEX") Costs

#### **Mining Capital**

No mining capital was included in the economic analysis as it is assumed that the mine will continue to be serviced by a mining contractor that will provide its own equipment fleet.

#### **Mill Capital**

A total of \$ 2.2 M in plant capital was budgeted in 2008 to increase plant throughput to 3,200 tpd. The 2008 plant capital includes costs for primary crusher upgrades and thickener and filter press additions as well as other modifications.

It is unknown at this time whether further capital will be required to increase the mill throughput to 3,500 tpd when Area 2 ore is processed. The Area 2 PFS stated that thickening and grinding improvements would have to be made to reach 3,500 tpd, however recent plant performance suggests that the upgrade may not be needed and, therefore, the capital cost was not included in the LOM cash flow.

#### **Power Line Capital**

As discussed in Section 18.1, the power line capital total is estimated to be \$16 M financed over 7 years. Minto's capital contribution to the main Carmacks-Pelly line is fixed at \$7.2 M. The capital cost of the mine spur line will be fully paid by Minto and is expected to be \$8.8 M. No contingencies were added to these capital items

#### **Other Capital**

Environmental components of the project were determined to be financed through an independent element and, for that reason, no costs have been incorporated into the specific cash flow for the project, except for an additional \$2M added for the reclamation of Area 2.

Exploration capital was deemed as discretionary as it is not required to support LOM production and has, therefore, not been included in the LOM cash flow.

Project	2008	2009	2010	2011	2012	2013	2014	2015	2016
Plant expansion	2.2	-	-	-	-	-	-	-	-
Powerline - mine spur	0.4	1.5	1.5	1.5	1.5	1.5	1.5	1.1	-
Powerline - main grid line	0.1	0.4	0.4	0.4	0.9	2.6	2.6	1.9	-
Tailings associated with plant exp.	-	-	0.5	-	-	-	-	-	-
Sustaining cap. & Area 2 Reclamation	1.2	1.5	1.6	1.0	1.0	0.5	0.3	1.3	0.8
Contingency @ 20%	-	0.3	0.4	0.2	0.2	0.1	0.1	0.3	0.2
TOTAL CAPITAL COST	3.8	3.7	7.9	3.1	3.6	4.7	4.4	4.6	1.0

#### Table 19.12: Summary of LOM Plan CAPEX (\$M)

# 19.8 Economic Analysis

### 19.8.1 Assumptions

A financial model was compiled by SRK based on the Minto LOM operations plan and the 2008 budget. The model includes taxation but excludes financing costs (debt and interest payments). Net annual cash flows were calculated by considering net smelter return from the payable Cu, Au and Ag metals, and then deducting the operating costs, capital costs and applicable taxes.

Three cases were analyzed to show variability of results using different metal price assumptions. Metal prices were estimated by applying prices from the existing sales contract as shown in Table 19.13 and non-contract metal price assumptions for Case 1 are shown in Table 19.14. Cases 2 and 3 used Case 1 non-contract metal prices less 15% and 30%, respectively. All three cases used the same mineral reserve, cost and production parameters.

#### Table 19.13: Summary of Forward Sales Contract Metal Pricing

Metal	Units	2007	2008	2009	2010	2011	Average
Copper	US\$/lb	3.08	2.88	2.49	2.19	2.12	2.50
Gold	US\$/oz	648	654	653	653	720	667
Silver	US\$/oz	11.76	11.90	11.90	11.90	13.68	12.26

#### Table 19.14: Summary of Case 1 Non-contract Metal Pricing Assumptions

Metal	Units	2008	2009	2010	2011	2012	2013	2014	2015	2016
Copper	US\$/lb	3.67	3.53	3.37	3.21	3.08	2.96	2.80	2.60	2.40
Gold	US\$/oz	900	900	900	900	900	900	900	900	900
Silver	US\$/oz	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5

The other main economic factors used in the cash flow analysis were:

- CAD:USD exchange rate of:
  - 1:1 (parity) for 2008;
  - 1.05:1 for 2009; and
  - 1.10:1 beyond 2009
- A discount rate of 10%;
- Variable metal pricing;
- Nominal 2008 dollars; and
- No inflation.

Costs, revenues and taxes were calculated for each period in which they occurred rather than at the actual date of payment. For example, taxes were calculated each month in the model even though they are actually paid only once per year.

### 19.8.2 Economic Results

The LOM financial results common to all three cases are shown in Table 19.18. Financial results specific to each case are shown in Tables 19.16 to 19.20.

It must be noted that the net present value ("NPV") calculations in the financial model were done using 2008 as the starting year and do not take into account approximately \$150M in capital spent in 2006 and 2007 for plant and mine construction. This methodology only looks at the project going forward from the beginning of 2008 and, therefore, shows high returns.

#### Case 1

Case 1 assumed the highest metal grades of the three cases and, as a result, Case 1 has the highest NPV and overall cash flow. The results show the NPV at a 10% discount rate ("NPV<sub>10%</sub>") to be \$386M after tax and \$471M before tax. The total amount of tax paid is \$137M (undiscounted). Table 19.15 shows the NPV results at various discount rates. Case 1 clearly produces a very robust outcome but it relies on metal prices remaining relatively strong for the next several years as shown in Table 19.14. The cash operating cost for Case 1 is \$1.22/lb Cu not including by-product (Au and Ag) credits and \$0.80/lb Cu with by-product credits.

Table 19.15: Discount Factors and Related Net Present Values for Case 1

Discount Rate	NPV (C\$ '000,000)							
Discount Rate	Pre-tax	After-tax						
0.0%	\$ 659	\$ 522						
5.0%	\$ 552	\$ 445						
10.0%	\$ 471	\$ 386						
15.0%	\$ 408	\$ 339						

#### Case 2

Case 2 has a medium level of non-contract metal pricing but still yields very strong NPV results as shown in Table 19.16. The operating cost including by-product credits is \$0.84/lb Cu.

Discount Rate	NPV (C\$ '000,000)							
Discount Rate	Pre-tax	After-tax						
0.0%	\$ 511	\$ 416						
5.0%	\$ 432	\$ 358						
10.0%	\$ 372	\$ 313						
15.0%	\$ 325	\$ 278						

#### Case 3

Case 3, with the lowest metal price assumptions, shows the least NPV but still indicates a very robust project. The Case 3 OPEX including by-product credits is \$0.89/lb Cu.

Table 19.17: Discount Factors and Related Net Present Values for Case 3

Discount Rate	NPV (C\$ '000,000)							
	Pre-tax	After-tax						
0.0%	\$ 364	\$ 311						
5.0%	\$ 313	\$ 272						
10.0%	\$ 273	\$ 241						
15.0%	\$ 241	\$ 215						

Table 19.18: Summary of Economic Model Results for All Three Cases
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	Year											
Item	Unit	2007*	2008**	2009	2010	2011	2012	2013	2014	2015	2016	Total/ Ave.
MINING												
Waste mined	Mtonnes	9.3	9.3	10.1	8.1	10.1	10.4	10.0	3.5	0.0	0.0	70.7
Ore mined	Mtonnes	0.7	1.5	1.3	2.7	0.4	0.8	1.3	1.1	0.1	0.0	9.9
Total mined	Mtonnes	10.0	10.8	11.4	10.7	10.5	11.2	11.2	4.6	0.2	0.0	80.6
MILLING	1			1				I I				
Mill Feed	Mtonnes	0.24	0.88	1.17	1.17	1.17	1.28	1.28	1.28	1.28	0.21	9.9
Mill Feed Rate	t/d	variable	2,392	3,200	3,200	3,200	3,500	3,500	3,500	3,500	3,500	3,252
Copper millhead grade	% Cu	2.16%	3.14%	2.98%	2.40%	1.48%	1.67%	1.57%	1.38%	0.95%	0.80%	1.86%
Gold millhead grade	g/t Au	na	1.03	1.16	0.81	0.55	0.67	0.61	0.51	0.30	0.22	0.68
Silver millhead grade	g/t Ag	7.7	13.1	12.7	9.7	5.8	7.1	5.3	4.5	3.4	3.0	7.3
Copper recovery to cons	%	85%	94%	94%	94%	94%	92%	92%	92%	92%	92%	93%
Gold recovery to cons	%	na	77%	80%	80%	80%	69%	69%	69%	69%	69%	74%
Silver recovery cons	%	78%	88%	87%	87%	87%	83%	83%	83%	83%	83%	85%
Copper in cons	Mlb	9.7	56.7	72.1	58.2	35.8	43.2	40.6	35.7	24.6	1.8	378
Copper in cons	tonnes	4,400	25,725	32,693	26,377	16,249	19,606	18,432	16,201	11,153	798	171,635
Gold in cons	Koz	na	22.3	35.0	24.2	16.5	18.9	17.2	14.4	8.5	0.5	158
Silver in cons	Koz	46	326	414	315	189	241	180	153	116	9	1,988
Concentrate tonnes	dmt	12,630	64,757	81,733	65,942	40,623	49,015	46,080	40,504	27,883	1,994	431,162
Concentrate grade	% Cu	35%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%
PAYABLE METAL AND												
Payable copper	Mlb		54.9	69.7	56.3	34.7	41.8	39.3	34.6	23.8	1.7	358
Payable copper	tonnes		24,889	31,630	25,520	15,721	18,969	17,833	15,675	10,791	772	162,536
Payable gold	Koz		22.0	33.9	23.5	16.0	18.4	16.7	14.0	8.1	0.5	153
Payable silver	Koz		282	335	251	150	194	136	114	89	7	1,563
Exchange rate	C\$/US\$		1.00	1.05	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.08
Transport cost	\$M		13.4	16.2	13.1	8.5	10.2	9.5	8.5	6.2	1.0	86.4
TC/RC	\$M		6.2	10.9	9.8	6.0	7.3	6.8	6.0	4.1	0.6	57.8
UNIT OPERATING COST	rs											
Mining/stockpile	\$/t mined		3.32	3.13	2.99	2.94	2.79	2.79	3.30	8.33		3.02
management/tailings cost	\$/t milled		40.91		27.47	26.51	24.33	24.52	11.92	0.99	0.30	22.00
	\$/t milled		16.42	30.47	11.47	11.47		9.95	9.87	9.64	9.44	11.14
Milling cost				11.47			10.87					
Camp services Site services (power,	\$/t milled		2.72	1.66	1.66	1.66	1.52	1.52	1.52	1.16	1.03	1.62
barge, road)	\$/t milled		14.25	4.47	4.47	4.46	4.39	4.38	4.38	4.38	3.84	5.29
Technical services	\$/t milled		1.98	0.87	0.87	0.87	0.80	0.80	0.79	0.54	0.45	0.89
Administration	\$/t milled		6.61	4.08	4.08	4.08	3.73	3.73	3.73	3.55	3.93	4.10
Total OPEX (ex royalty)	\$/t milled		82.90	53.02	50.02	49.05	45.64	44.90	32.21	20.27	18.98	45.04
Unit operating costs w/o bi-product credits	\$/lb Cu		1.32	0.89	1.04	1.65	1.39	1.46	1.19	1.09	1.21	1.22
CAPITAL COSTS												
Initial and sustaining	\$M		3.8	3.7	4.4	3.1	3.6	4.7	4.4	4.6	0.5	33.2

\* Actuals \*\* January -June actuals

ALL DOLLARS ARE CANADIAN EXCEPT AS NOTED

Table 19.19: Economic Results by Case (undiscounted cash flow)
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	Year											
Item	Unit	2007*	2008**	2009	2010	2011	2012	2013	2014	2015	2016	Total/ Ave.
CASE 1												
Copper Price (inc. hedge)	US\$/lb		3.28	3.04	2.79	2.74	3.08	2.96	2.80	2.60	2.40	2.95
Gold price (inc. hedge)	US\$/oz		794.92	795.11	752.72	764.41	900.00	900.00	900.00	900.00	900.00	825.10
Silver price (inc. hedge)	US\$/oz		14.99	14.88	14.56	14.49	17.50	17.50	17.50	17.50	17.50	15.72
NSR	\$M		182.1	229.0	173.2	105.7	146.1	130.9	108.0	67.4	4.3	1,150.9
NET OPERATING INCOME	\$M		105.3	163.4	111.6	45.6	84.8	70.6	65.0	41.2	2.2	691.9
Unit operating costs	\$/lb Cu		1.32	0.89	1.04	1.65	1.39	1.46	1.19	1.09	1.21	1.22
Unit operating costs w/ bi- product credits	\$/lb Cu		0.93	0.43	0.66	1.24	0.92	1.02	0.77	0.72	0.88	0.80
CAPITAL COSTS	\$M		3.84	3.65	4.37	3.05	3.61	4.68	4.38	4.56	0.50	33.15
Taxes	\$M		0.00	0.00	(28.67)	(35.76)	(13.49)	(30.02)	(18.04)	(10.84)	0.00	(136.82)
After tax cash flow	\$M		101.51	159.77	78.53	6.81	67.70	35.89	42.60	25.81	1.74	521.93
CASE 2												
Copper Price (inc. hedge)	US\$/lb		3.00	2.76	2.53	2.47	2.62	2.52	2.38	2.21	2.04	2.61
Gold price (inc. hedge)	US\$/oz		717.47	717.54	698.37	731.16	765.00	765.00	765.00	765.00	765.00	733.98
Silver price (inc. hedge)	US\$/oz		13.54	13.48	13.31	13.89	14.88	14.88	14.88	14.88	14.88	13.99
NSR	\$M		164.5	205.3	155.7	94.6	121.6	108.8	89.7	55.8	3.6	1,002.8
NET OPERATING INCOME	\$M		87.9	139.8	94.1	34.6	60.4	48.6	46.8	29.6	1.5	544.6
Unit operating costs	\$/lb Cu		1.32	0.89	1.04	1.65	1.39	1.46	1.19	1.09	1.21	1.22
Unit operating costs with bi-product credits	\$/lb Cu		0.97	0.47	0.69	1.25	0.99	1.08	0.83	0.77	0.93	0.84
CAPITAL COSTS	\$M		3.84	3.65	4.37	3.05	3.61	4.68	4.38	4.56	0.50	33.15
Taxes	\$M		0.00	0.00	(7.84)	(36.31)	(10.20)	(20.56)	(12.92)	(7.32)	0.00	(95.14)
After tax cash flow	\$M		84.03	136.13	81.89	(4.78)	46.59	23.40	29.45	17.74	0.98	416.27
CASE 3												
Copper Price (inc. hedge)	US\$/lb		2.72	2.48	2.28	2.19	2.16	2.07	1.96	1.82	1.68	2.27
Gold price (inc. hedge)	US\$/oz		640.02	639.97	644.01	697.91	630.00	630.00	630.00	630.00	630.00	642.87
Silver price (inc. hedge)	US\$/oz		12.09	12.09	12.07	13.30	12.25	12.25	12.25	12.25	12.25	12.26
NSR	\$M		147.0	181.5	138.1	83.5	97.0	86.7	71.3	44.1	2.8	854.8
NET OPERATING INCOME	\$M		70.4	116.1	76.6	23.5	36.0	26.7	28.5	18.0	0.7	397.2
Unit operating costs	\$/lb Cu		1.32	0.89	1.04	1.65	1.39	1.46	1.19	1.09	1.21	1.22
Unit operating costs w/ bi- product credits	\$/lb Cu		1.00	0.52	0.72	1.27	1.06	1.15	0.90	0.83	0.98	0.89
CAPITAL COSTS	\$M		3.8	3.7	4.4	3.1	3.6	4.7	4.4	4.6	0.5	33.2
Taxes	\$M		0.00	0.00	0.00	(24.15)	(7.51)	(10.14)	(7.48)	(3.88)	0.00	(53.17)
After tax cash flow	\$M		66.6	112.5	72.3	(3.7)	24.9	11.9	16.6	9.6	0.2	310.9

\* Actuals \*\* January –June actuals

ALL DOLLARS ARE CANADIAN EXCEPT AS NOTED

## 19.8.3 Sensitivities

The project was evaluated for sensitivity to the operating costs, capital costs, grade and metal price. All sensitivities were assessed for the range of -20% to +20% with the resulting NPV<sub>10%</sub> value shown with the base case. Figures 19.8 to 19.10 show the graphical results of the sensitivity analysis.

All sensitivities were done as mutually exclusive variations. A combination of variable changes was not conducted nor was an analysis of the probability of any variations.

Both the pre-tax and after taxation cash flow models show the project is most sensitive to changes to the Cu grade. This sensitivity is somewhat mitigated in the mine plan by the significant use of stockpiles to allow the early extraction of higher grade ore and the ability to blend different grades to provide a consistent mill feed. These two features of the LOM plan are important in maximizing the economics of the project. In Case 1 a 20% drop in Cu grade yields a \$112 M (29%) drop in after-tax NVP<sub>10%</sub>. Diligent grade control practices will be important in achieving undiluted mill feed, especially in Area 2 where the mineralized zones are smaller and more numerous than is found in the Main pit.

Metal prices demonstrate the second greatest sensitivity. In Minto's case, the metal prices are buffered by the fact that a significant portion of its production is hedged until late 2011 so a reduction or increase in the market price has a tempered affect on the NPV. Even with this forward sale arrangement, a 20% decrease or increase in Cu price changes the after-tax NPV<sub>10%</sub> by 25%.

A 20% reduction in OPEX yields a \$45 M (12%) increase in after-tax  $NPV_{10\%}$ . Many of Minto's major operating expenses including mining, explosives, TCs and RCs and concentrate transport are covered by contracts and, therefore, offer considerable protection from variances in the next 2 to 4 years.

As most of the capital expenses have already been incurred, the project is not sensitive to CAPEX.

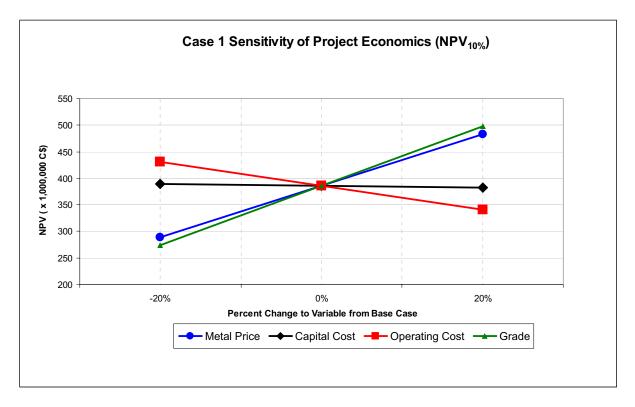
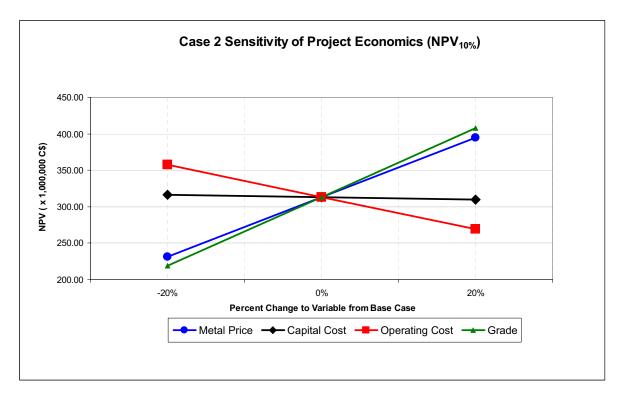
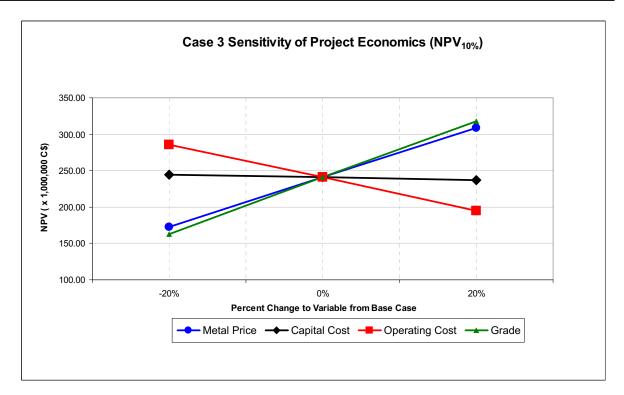


Figure 19.8 Case 1 Sensitivities



#### Figure 19.9 Case 2 Sensitivities



#### Figure 19.10 Case 3 Sensitivities

#### 19.8.4 Comments

#### **Metal Price**

Regardless of which tax or pre-tax model is selected, changes to the metal grades and prices each contribute to make the most impact on the cash flow for the project. Considering that some of the mine production has hedged prices and the current strong metal price trend, any negative effect on NPV resulting from a drop in the price of Cu, Au and Ag seems to have a low mid-term probability.

#### Grade

Changes to the grade of Cu represent the project's greatest economic vulnerability and the variable that can also be affected by internal efforts associated with mining and milling operations. With the high profile and mandate related to the management of the stockpiled ore, and the concerted effort to optimize recovery grades, the mitigation of the grade risk has been woven into the project strategy.

#### Tonnage

Changes to tonnage are only expected should grade control and waste mining require modification. The mine plan that has been modeled is the result of stringent efforts and continued monitoring of mining operations can alleviate risks associated with tonnages.

#### Foreign Exchange

The effect of foreign exchange can have a significant negative or positive impact on the project cash flow, mainly because Minto's revenue contracts are fixed in US dollars while operating costs, taxes,

and capital are in Canadian dollars. The magnitude of this impact is measured from the 1.08 CDN:USD average exchange rate used in the economic model and the actual exchange rate affecting the project.

# 19.9 Payback

The payback period for the entire project capital spent to date is expected to be within two years depending on number of external factors including metal prices, exchange rates, etc. The payback on all future capital spending will be almost immediate due to large cash flows and minimal capital expenditures planned.

## 19.10 Mine Life

With the current mineral reserve estimates used in the LOM plan, the mine operation will end in the first quarter of 2015. Open pit mining is estimated to finish in January 2015 and the mill will continue to run on stockpiled material until the first quarter of 2016.

The recently expanded mineral resource estimate described in this report will likely add additional life to the operation, potentially for several more years, however, this has not yet been proven. A preliminary feasibility study must be undertaken to determine a potential increase in reserves.

It is SRK's opinion that, based on the continuing upgrading of mineral resources and the past exploration success on the property, there is good potential for the extension of the mine life.

# **20** Interpretations and Conclusions

- The Minto Mine, while experiencing normal project ramp-up challenges, is meeting overall expectations and in many instances exceeding them.
- Mill recoveries and concentrate grades at or above target
- The Minto deposit, encompassing both Main pit and Area 2, represents a significant ore reserve. The current mining in the Main pit has helped confirm the expected grade and extent of the ore reserves and the detailed drilling has provided a good level of confidence in the reserve estimate.
- The expanded Area 2, Area 118 and Ridgetop deposits are resources that represent potential additional reserve tonnage and increased mine life.
- The potential exists to improve the waste management system of the property in order to enhance productivity and reduce overall mine costs (i.e. valley fill spoils).
- The sequential rather than concurrent mining of the Main and Area 2 pits is the preferred mining schedule and will enhance reclamation activities.
- There are strong exploration targets in the immediate vicinity of the Main and Area 2 pits.
- Based on the testwork conducted to date, the Area 2 waste rock does not appear to have any ARD issues.

## 20.1 Risks

The following risks have been identified for the Mine:

- Exchange rates, metal prices and external influences: MintoEx has no control over exchange rates and their impact on the economics of the operation is significant. Metal prices are also not controllable, other than by forward sales contracts, and can have an appreciable affect on project return.
- Process Capacity: The ability of the mill to be modified to 3,500 tpd is a risk, as there may be certain unit operations that could create bottlenecks to the operation that have not been identified.
- Water management: Both the lack of water and the overabundance of water are potential issues for the mine. The lack of water may be an issue during the during the in-pit co-deposition of tailings in the Main pit as water will be lost.
- Grade control: The Area 2 deposit is made up of several zones of ore that are not as continuous and thick as the Main zone. As a result, a very thorough and proactive grade control program will be necessary to reduce dilution. The NPV of this project is very sensitive to copper grade, so excessive dilution will have a serious negative impact on the project economics.

## 20.2 Opportunities

• Optimization of mine plan: The mine plan has not been fully optimized and it is likely that further scheduling work will smooth out some of the grade and ore extraction variations and provide higher grade ore sooner with delayed waste mining.

- Resource additions: The resource updates contained in this report show considerable additional mineralization that has not been considered in the LOM plan summarized in this report, and extensive drilling is underway in 2008 to upgrade the confidence in these new resources, attempt to increase them and test new targets. A further update to the LOM plan will be completed once the 2008 results are available, and offers opportunities for further increases in grades, potential rescheduling of the different zones to optimize project economics, etc.
- Exploration target potential: There are several interesting exploration targets on the Minto property. MintoEx has plans to further explore these targets with the hope that they will become resources and eventually reserves. There is absolutely no guarantee these targets will ever be economic to extract, however, the past exploration record at Minto is a positive indication of further potential.
- Underground mine potential: The MintoEx has identified some exploration targets that may have the potential for underground mining. If these targets are added to Minto's resources, a study should be undertaken to determine if the deposits are sufficient in grade and volume to support underground development.
- Waste deposition in the Minto Valley: The Minto valley to the west and south-west of the Main pit offers a viable waste rock dump alternative that will provide the mine with a significant cost savings, by reducing the distance and elevation of the waste rock truck hauls.
- Processing efficiency: As the Minto ore is better understood, the processing plant may be further optimized to increase recovery, improve concentrate grade or increase throughput.

# **21 Recommendations**

## 21.1 Metallurgy and Processing Plant

- Work should continue in automating the process plant to improve efficiencies of the various processing stages.
- An automated reporting package should be implemented to improve accuracy and reduce staff time spent typing data into various spread sheets.
- Further enhancements are possible in the flotation configuration that could result in enhanced recoveries. The rougher concentrate assays cover 40% copper and should only require one additional stage of cleaning.
- Investigate the potential for gravity recovery of gold.
- More Area 2 testing on expanded resources, met work on Area 118 and Ridgetop (where there is none)SQ

# 21.2 Mining

- A pre-feasibility study should be conducted to determine the economic viability of underground mining at Minto as well as the economic potential of the 118 and Ridgetop resources.
- Mine schedule analysis should be conducted to provide smooth out the mill-feed grade profile and optimize the economics of the mine.

## 21.3 Geology and Resources

- More infill drilling is recommended for Area 118; Area 2 and Ridgetop to increase the resource classification of the existing inferred resources to indicate or better in order to support further feasibility assessment.
- In addition all three deposits have some room for expansion of the existing resources therefore step-out drilling is recommended to test this possibility. Ridgetop is the highest priority target due to it being clearly open to the east and because mineralization is close to surface.
- Wide spaced infill drilling on roughly 160m centres is recommended in the area between Area 2/Area 118 and Ridgetop to assess the possibility of linking the three deposits

## 21.4 Waste Management

- Co-deposition of tailings and waste in the Main pit need to be designed in detail.
- A permit to use the valley floor as a waste dump should be sought.
- Design of a detailed waste management plan for the Area 2 plan and for mine closure.

# 22 Illustrations

All pertinent illustrations are contained within other sections of the report.

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# 24 Standard Acronyms and Abbreviations

Distance	Distance				
μm	micron (micrometre)				
mm	millimetre				
cm	centimetre				
m	metre				
km	kilometre				
"	inch				
in	inch				
,	foot				
ft	foot				
Area					
m <sup>2</sup>	square metre				
km <sup>2</sup>	square kilometre				
ac					
На					
Volume	1				
<u> </u>	litre				
m <sup>3</sup>	cubic metre				
ft <sup>3</sup>	cubic foot				
usg	US gallon				
yd <sup>3</sup>	cubic yard				
bcm	bank cubic yard				
Mbcm	Million bcm				
Mass	1				
kg	kilogram				
g	gram				
t	metric tonne				
Kt	Kilotonne				
lb	pound				
Mt	Megatonne				
OZ	troy ounce				
wmt	wet metric tonne				
dmt	dry metric tonne				
Pressure	1				
psi	pounds per square inch				
Ра	Pascal				
kPa	kilopascal				
MPa	megapascal				
Elements and Compounds					
Au	gold				
Ag	silver				
Cu	copper				
Hg	lead				
Zn	zinc				
CaCO <sup>3</sup>	Calcium carbonate				
ANFO	Ammonium Nitrate/Fuel Oil				

Other		
Other		
°C	degree Celsius	
°F	degree Fahrenheit	
Btu	British thermal unit	
cfm	cubic feet per minute	
elev	elevation above sea level	
amsl	above mean sea level	
hp	horsepower	
hr	hour	
kW	kilowatt	
kWh	kilowatt hour	
Ма	Million years	
mph	miles per hour	
ppb	parts per billion	
ppm	parts per million	
S	second	
s.g.	specific gravity	
usgpm	US gallon per minute	
V	volt	
W	watt	
Ω	ohm	
А	ampere	
tph	tonnes per hour	
tpd	tonnes per day	
Ø	diameter	
Acronyms		
SRK	SRK Consulting (Canada) Inc.	
CIM	Canadian Institute of Mining	
NI 43-101	National Instrument 43-101	
ABA	Acid- base accounting	
AP	Acid potential	
NP	Neutralization potential	
NPTIC	Carbonate neutralization potential	
ML/ARD	Metal leaching/ acid rock drainage	
Conversion I	Factors	
1 tonne	2,204.62 lb	
1 oz	31.1035 g	

## 25 Date and Signature Page

The effective date of this report is July 31, 2008 and was prepared by the undersigned.

**ORIGINAL SIGNED AND STAMPED** 

Prepared by

Gordon Doerksen

Susan Lomas

Dave Hendricks

Brad Mercer

Dino Pilotto

Vivienne McLennan

Dan Cornett



SRK Consulting (Canada) Inc. Suite 2200 – 1066 West Hastings Street Vancouver, B.C. V6E 3X2 Canada

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## **CERTIFICATE of AUTHOR**

I, Gordon Edward Doerksen, do hereby certify that:

- 1) I am a Principal Consultant Mining with the firm of SRK Consulting (Canada) Inc.;
- 2) I am a graduate of Montana Tech with a BS (Mining Engineering), 1990. I have practiced my profession continuously since my graduation;
- 3) I am a Professional Engineer in good standing in British Columbia (#32273);
- 4) I am a member of the Canadian Institute of Mining and the Society of Mining Engineers;
- 5) I have not received, nor do I expect to receive, any interest, directly or indirectly, in the subject property or securities of Minto Exploration Ltd. or Sherwood Copper Corp.;
- 6) That, as of the date of this certificate, to the best of my knowledge, information and belief, this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading;
- 7) I have read National Instrument 43-101 and Form 43-101F1 and I am a Qualified Person for the purpose of NI 43-101 and this technical report has been prepared in compliance with National Instrument 43-101 and Form 43-101F1;
- 8) I, as the qualified person, am independent of the issuer as defined in Section 1.4 of National Instrument 43-101;
- 9) I last visited the Minto Mine on July 18, 2008.
- 10) I am not aware of any material fact or material change with respect to the subject matter of the Technical Report ("Report") that is not reflected in the Report, the omission to disclose which makes the Report misleading.
- 11) I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.
- 12) I am responsible for Sections 2 to 9, 15, 22 to 25 and provided input into Sections 18 to 21 of this report entitled "Technical Report Minto Mine, Yukon" dated June 30, 2008.

ORIGINAL SIGNED AND STAMPED

Gordon Doerksen

July 31, 2008, Gibsons, BC

Technical Report QP Letter - Doerksen.doc

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#### **CERTIFICATE OF QUALIFIED PERSON**

Ali Shahkar P. Eng. Lions Gate Geological Consulting 7629 Sechelt Inlet Road Sechelt, BC, V0N 3A4 Tel: (604) 885-3798 Email: shahk@telus.net

I, Ali Shahkar, am a Professional Engineer, employed as a Principal Consultant with Lions Gate Geological Consulting (LGGC).

This certificate applies to the technical report titled *"Technical Report - Minto Mine, Yukon"* dated June 30, 2008.

I am a member of the Association of Professional Engineers and Geoscientists of BC (APEGBC). I graduated from University of British Columbia (UBC) in 1995.

I have practiced my profession for 14 years. I have been directly involved in: mineral exploration for gold, molybdenum, copper, zinc, chromium and silver in Canada, Albania, Venezuela, Kyrgyzstan and Burkina Faso in underground mine geology, ore control and resource modelling for gold, molybdenum, copper, zinc, silver, coal, diamonds and industrial mineral properties in Canada, United States, Peru, Venezuela, Senegal, Kyrgyzstan, Russia and Indonesia.

As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument 43-101 *Standards of Disclosure of Mineral Projects* (NI 43-101).

I last visited the Minto Project site in August 2005, but have extensively reviewed the core photos and seen representative core segments in the Vancouver office.

I am responsible for Section 17 of "Technical Report – Minto Mine, Yukon, June 30, 2007".

I am not independent of Sherwood Copper Corp. as independence is described by Section 1.4 of NI 43-101.

I have been involved with the Minto Project since June 2005 through exploration planning, modeling and Resource Estimations.

I have read National Instrument 43-101 and this report has been prepared in compliance with that Instrument.

As of the date of this certificate, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

#### "Signed and sealed"

Ali Shahkar, P.Eng.

Dated: August 5, 2008

#### Dino Pilotto B.A.Sc., P.Eng.

SRK Consulting (Canada) Inc. 103-2103 Airport Drive Saskatoon, SK S7L 6W2 Telephone: (306) 955-4797 Fax: (306) 955-4750 Email: dpilotto@srk.com

### **CERTIFICATE of AUTHOR**

I, Dino Pilotto, do hereby certify that:

1. I am a Registered Professional Engineer (P.Eng.) in good standing in the Province of Alberta (#M88762) and Saskatchewan (#14782). I am a Principal Consultant – Mining employed by:

SRK Consulting (Canada) Inc. Suite 2200-1066 West Hastings St. Vancouver, B.C., Canada V6E 3X2

2. I graduated with a Bachelor of Applied Science degree in Mining and Mineral Process Engineering from the University of British Columbia in 1987.

3. I have worked continuously as a mining professional since my graduation from university.

4. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

5. I am responsible for the preparation of Sections 18.2, and 19.1 as well as providing input for Sections 1, 2, 20 and 21 of the report titled "Technical Report - Minto Mine, Yukon", dated June 30, 2008 (the "Report").

6. I visited the Minto Project site on December 4-6, 2006; January 11-13, 2007; February 6-9, 2007; March 10-14, 2007; April 4-9, 2007; May 9-12, 2007; and July 18, 2008.

7. I have had prior involvement with the Minto Mine in terms of providing mine planning services for the Minto Main pit as well as being involved in preparation of the Area 2 Pre-feasibility Study dated November 30, 2007.

8. I am not aware of any material fact or material change with respect to the subject matter of the Report that is not reflected in the Report, the omission to disclose which makes the Report misleading.

9. I am independent of the issuer applying all of the tests in section 1.5 of National Instrument 43-101.

10. I have read National Instrument 43-101 and Form 43-101F1, and the Report has been prepared in compliance with that instrument and form.

11. I consent to the filing of the Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Report.

Dated this 31st Day of July, 2008.

### **ORIGINAL SIGNED AND STAMPED**

Dino Pilotto Principal Consultant - Mining

#### **CERTIFICATE OF QUALIFIED PERSON**

Susan Lomas, P.Geo. Lions Gate Geological Consulting 7629 Sechelt Inlet Rd. Sechelt, BC, V0N 3A4 Tel: (604) 885-3798 Email: geowitch@telus.net

I, Susan Lomas, am a Professional Geoscientist, employed as a Principal Consultant with Lions Gate Geological Consulting (LGGC).

This certificate applies to the technical report titled "*Technical Report - Minto Mine, Yukon*" dated June 30, 2008.

I am a member of the Association of Professional Engineers and Geoscientists of BC (APEGBC). I graduated from Concordia University in 1987.

I have practiced my profession continuously since 1987 and have been involved in: mineral exploration for gold, nickel, copper, zinc, and silver in Canada, United States, Mexico, Venezuela and Ghana and in underground mine geology, ore control and resource modelling for gold, nickel, copper, zinc, silver, potash, coal and industrial mineral properties in Canada, United States, Peru, Dominican Republic, Venezuela, Thailand, China, Ecuador, Brazil, New Caledonia, Guyana, Indonesia, Philippines and Russia.

As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument 43-101 *Standards of Disclosure of Mineral Projects* (NI 43-101).

I have not visited the Minto Project site but have extensively reviewed the core photos and seen representative core segments in the Vancouver office.

I am responsible for Section 17 of "Technical Report – Minto Mine, Yukon, June 30, 2007".

I am not independent of Sherwood Copper Corp. as independence is described by Section 1.4 of NI 43-101.

I have been involved with the Minto Project since March 2006 through reviews of their QAQC data, sampling protocols and Resource Estimations.

I have read National Instrument 43-101 and this report has been prepared in compliance with that Instrument.

As of the date of this certificate, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

"Signed and sealed"

Susan Lomas, P.Geo.

Dated: August 5, 2008

## **TECHPRO \* TECHED**

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#### **DAVID W. HENDRIKS**

## **CERTIFICATE OF AUTHOR**

I, David W. Hendriks, do hereby certify that:

- I am an independent consultant and Principal Metallurgist with Techpro\*Teched located at 107-10 Golfdale Rd. Barrie, On, L4N 6S4
- 2. I hold the following academic qualifications:

Bachelor of Science-Metallurgy, University of Toronto, 1969 Masters of Engineering, McGill University, 1971

 I do, by reason of education, experience and professional registration, fulfill the requirements of a Qualified Person as defined in NI 43-101. My working experience includes:

> Various positions at Mattagami Lake Mines 1971 to 1977 Granisle and Bell Mines 1977 to 1982. Brunswick Mining and Smelting 1982 to 1987. Geco Mines 1987 to 1990. Hemlo Gold Mines 1990 to 1993. Independent Consultant 1993 to present.

- 4. I am responsible for the preparation of those portions of the "Technical Report-Minto Mine, Yukon" June 30, 2008 under sections 1, 16, 19.2, 20, 21
- 5. I am independent of the parties involved in the transaction for which this report is required, as defined in Section 1.4 of NI 43-101;
- 6. I have been a metallurgical consultant at the Minto Exploration property since December 2007
- 7. I have read NI 43-101 and the portions of this report for which I am responsible have been prepared in compliance with the instrument.
- 8. As of the date of this certificate to the best of my knowledge, information and belief, the Technical Report-Minto Mine, June 30, 2008 contains all scientific and technical information that is required to be disclosed to make this report not misleading; I consent to the filing of the Technical report, Minto Mine, Yukon" June 30, 2008 with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report-Minto Mine June 30, 2008

Dated this 31th day of July, 2008

a tenanch

David W. Hendriks M. Eng., P.Eng





## Minto Explorations Ltd.

A SUBSIDIARY of SHERWOOD COPPER CORPORATION

MINE SITE: PO BOX 33174 · WHITEHORSE, YT · Y1A 6S1 CANADA · TEL: (604) 759-0860 · FAX: (604)759-0861 HEAD OFFICE: SUITE 860-625 HOWE STREET · VANCOUVER, BC · V6C 2T6 · CANADA · TEL: (604-687-7545) · FAX: (604)-689-5041

**CERTIFICATE of AUTHOR** 

I, Brad Mercer, do hereby certify that:

- 1) I am the V.P. Exploration with the firm Sherwood Copper Corporation with an office at Suite 860-625 Howe Street, Vancouver, Canada;
- 2) I am a graduate of the Memorial University of Newfoundland with a Bachelor of Science degree in Earth Science, 1984. I have practiced my profession continuously since 1984;
- 3) I am a Registered Professional Geologist in good standing in the Northwest Territories; NAPEGG #1581;
- 4) I, am not independent of the issuer as defined in Section 1.4 of National Instrument 43-101;
- 5) 1 am an employee of Sherwood Copper and I do expect to benefit directly in the securities of Sherwood Copper;
- 6) That, as of the date of this certificate, to the best of my knowledge, information and belief, this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading;
- 7) I have read National Instrument 43-101 and Form 43-101F1 and I am a Qualified Person for the purpose of NI 43-101 and this technical report has been prepared in compliance with National Instrument 43-101 and Form 43-101F1;
- I visited the Minto project on a regular basis since July, 2005 with the latest visit being July 29, 2008 and I am currently supervising ongoing technical work on the property related to exploration activities;
- 9) I am not aware of any material fact or material change with respect to the subject matter of the "Technical Report – Minto Mine, Yukon" June 30, 2008 and dated July 30, 2008 that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading;
- 10) I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report

 I contributed Section 10 – Exploration; Section 11 – Drilling; and parts of Section 1 – Executive Summary and Section 21 – Recommendations to the report entitled "Technical Report – Minto Mine, Yukon" June 30, 2008" dated July 31, 2008.

Brad Mercer



July 31, 2008

Edmonton, Canada