

# List of Tables

## EXECUTIVE SUMMARY

## VOLUME 1

### FRONT MATTER | PAGE

Table 3-1:	Tier 1 and Tier 2 Alternatives Assessed .....	21
Table 4-1:	List of Anticipated Provincial Permits and Authorizations .....	24
Table 4-2:	List of Anticipated Federal Permits and Authorizations .....	27
Table 5-1:	Nisga’a Nation Key Issue Executive Summary Table.....	30
Table 5-2:	TSKLH Issue Executive Summary Table.....	34
Table 5-3:	MNBC Issue Executive Summary Table.....	35
Table 5-4:	Community, Stakeholder, and Public Key Issues Executive Summary Table.....	39

## PROJECT OVERVIEW

## VOLUME 2

### CHAPTER 1 | PAGE

Table 1.1-1:	Input-output Interprovincial Model Summary Results.....	6
Table 1.1-2:	Red Mountain 1988 – 2016 Chronological Exploration Summary.....	9
Table 1.1-3:	Description of Mining Claims Associated with the Red Mountain Property .....	10
Table 1.1-4:	Current Authorizations and Permits (as of January 19, 2017).....	14
Table 1.2-1:	Mean Monthly and Annual Precipitation at Red Mountain .....	23
Table 1.2-2:	ARD Classifications According to Rock Type.....	38
Table 1.2-3:	Geological Units Present at Borrow Sources and Rock Cuts .....	39
Table 1.2-4:	Summary of Geohazards and Snow Avalanches Mapped for the PFSA .....	46
Table 1.2-5:	Global Warming Potentials.....	57
Table 1.2-6:	Comparison of Project GHG Emissions with Top Industrial British Columbia Emitters, Province-Wide Emissions, and Canada-Wide Emissions .....	59
Table 1.2-7:	Proximity to Federal Lands .....	60
Table 1.2-8:	Overlapping Tenure Holders.....	61
Table 1.3-1:	List of Anticipated Provincial Permits and Authorizations .....	64
Table 1.3-2:	List of Anticipated Federal Permits and Authorizations .....	67

Table 1.5-1:	Summary Breakdown of the Initial Capital Cost for the Design, Construction, and Commissioning of the Project.....	68
Table 1.5-2:	Summary Breakdown of Operating Costs.....	69
Table 1.5-3:	Summary Breakdown of Anticipated Employment during the Construction Phase .....	71
Table 1.5-4:	Summary Breakdown of Direct Employment during the Operation Phase.....	72
Table 1.5-5:	Average Wage, by Major Job Category, for Construction and Operation Phase Employees.....	74
Table 1.5-6:	Estimated Value of Supply of Services Contracts, by Phase .....	75
Table 1.6-1:	List of Equipment Anticipated to be Required during the Construction Phase.....	80
Table 1.6-2:	Size and Footprint of Facilities .....	81
Table 1.6-3:	Expected Annual Freight and Fuel on the Access Road.....	82
Table 1.6-4:	Expected Annual Vehicle Traffic on the Access Road .....	83
Table 1.6-5:	Design Specifications .....	84
Table 1.6-6:	Permanent Cut Slope-and-Fill Slope Angles by Ground Type.....	85
Table 1.6-7:	Characteristics of the Infrastructure Constructed within the Project Footprint .....	93
Table 1.6-8:	Water Use during Construction – Bromley Humps and Mine Site .....	101
Table 1.6-9:	Design Specifications .....	102
Table 1.6-10:	Topsoil Stockpile Design Criteria.....	104
Table 1.6-11:	Aggregate Quantities for Construction of the TMF, associated Water Management Infrastructure, and Roads, by Phase.....	105
Table 1.6-12:	Size of Fuel Storage and Expected Fuel Consumption.....	107
Table 1.6-13:	Design Basis for the Tailings Management Facility.....	116
Table 1.7-1:	Red Mountain Underground Gold Project Resource Estimate (January 2017) .....	122
Table 1.7-2:	Mine Production Schedule.....	124
Table 1.7-3:	Cut-off Grade Calculation .....	124
Table 1.7-4:	Mineral Reserves .....	125
Table 1.7-5:	Mineral Reserves by Probable and Proven Categories.....	125
Table 1.7-6:	Backfill Schedule .....	137
Table 1.7-7:	Ventilation Requirements.....	138
Table 1.7-8:	Waste Rock Storage Area Design Criteria .....	141
Table 1.7-9:	Waste Rock Development Sequence.....	142
Table 1.7-10:	LOM Process Plant Feed Schedule.....	144
Table 1.7-11:	Underground Production and Development Equipment List.....	145
Table 1.7-12:	Surface Equipment List .....	146

Table 1.7 13:	Process Design Criteria .....	152
Table 1.7 14:	Reagents and Process Consumables.....	159
Table 1.7 15:	Operation Phase Water Use – Bromley Humps and Mine Site .....	165
Table 1.7 16:	Design Basis for Red Mountain Water Treatment System .....	174
Table 1.7 17:	Expected Post-Treatment Effluent Chemistry .....	176
Table 1.7 18:	Preliminary Ferric Co-Precipitation Tank and Clarifier Sizing .....	180
Table 1.7 19:	MBBR Media and Tank Preliminary Sizing .....	183
Table 1.7 20:	Water Treatment Capital Cost Estimate .....	184
Table 1.7 21:	Water Treatment Operating Cost Estimate .....	185
Table 1.9 1:	Project Design Changes.....	187

ASSESSMENT PROCESS

VOLUME 2

CHAPTER 2 | PAGE

Table 2.3-1:	Summary of Regulations Supporting the <i>British Columbia Environmental Assessment Act</i> .....	2
Table 2.3-2:	Provincial Environmental Assessment: Pre-Application Steps and Related Project Milestones .....	5
Table 2.4-1:	Federal Environmental Assessment: Steps Taken prior to the EIS Submission and Related Project Milestones (based on information provided by the Agency (2017)) .....	11

INFORMATION DISTRIBUTION AND CONSULTATION OVERVIEW

VOLUME 2

CHAPTER 3 | PAGE

Table 3.4-1:	Provincial Consultation Requirements under the Section 11 Order .....	8
Table 3.4-2:	Federal Consultation Requirements under the EIS Guidelines.....	13

ALTERNATIVE MEANS OF UNDERTAKING THE PROJECT

VOLUME 2

CHAPTER 4 | PAGE

Table 4.3-1:	Alternative Tailings Management Facility Locations .....	18
Table 4.3-2:	Summary of Tier One Alternatives Analysis.....	28
Table 4.4-1:	Summary of Water Treatment Technologies for Removal of Ammonia .....	44

Table 4.4-2: Summary of Tier Two Alternatives Analysis ..... 49

CLOSURE AND RECLAMATION

VOLUME 2

CHAPTER 5 | PAGE

Table 5.3-1: Closure and Reclamation Objectives ..... 14  
 Table 5.4-1: Distribution of Surficial Material in the PFSA ..... 17  
 Table 5.4-2: Area Extent of Each SMU in the PFSA..... 17

EFFECTS ASSESSMENT METHODOLOGY

VOLUME 3

CHAPTER 6 | PAGE

Table 6.2 1: Selected Valued Components and Intermediate Components ..... 5  
 Table 6.2 2: Candidate Valued Components – Not Selected..... 7  
 Table 6.2 3: Summary of Consultation Feedback on <Subject Area/VC/IC> ..... 8  
 Table 6.3 1: Temporal Boundaries for the Effects Assessment..... 12  
 Table 6.4 1: Summary of Field Baseline Studies for the Red Mountain Underground Gold Project (completed)..... 15  
 Table 6.5 1: Project Interaction Matrix..... 19  
 Table 6.6 1: Proposed Mitigation Measures and Their Effectiveness ..... 28  
 Table 6.7 1: Characterization of <Residual Effect> on <VC/IC> ..... 30  
 Table 6.8 1: Attributes of Likelihood ..... 32  
 Table 6.10 1: Confidence Ratings and Definitions..... 34  
 Table 6.11 1: Summary of the Residual Effects Assessment for <Subject Area / VC / IC>..... 34  
 Table 6.12 1: List of Projects and Activities Included in the Cumulative Effects Assessment..... 36  
 Table 6.12 2: Summary of Past, Present, and Reasonably Foreseeable Future Activities with Potential to Interact with Project Residual Effects..... 55  
 Table 6.12 3: Summary of Residual Cumulative Effects Assessment ..... 59

AIR QUALITY EFFECTS ASSESSMENT

VOLUME 3

CHAPTER 7 | PAGE

Table 7.2 1: Relevant British Columbia Ambient Air Quality Objectives..... 6

Table 7.3 1: Summary of Consultation Feedback on Air Quality..... 8

Table 7.3 2: Measurement Indicators for Air Quality..... 9

Table 7.4 1: Regional Baseline Air Quality Concentrations Used to Determine Representative Baseline Concentrations for the Project Air Quality Assessment..... 17

Table 7.4 2: Regional Baseline Dustfall Rates used to Determine Representative Baseline Dustfall Rates for the Project Air Quality Assessment..... 19

Table 7.5 1: Potential Air Quality Project Interactions..... 22

Table 7.5 2: Predicted Maximum Pollutant Concentrations and Dust Deposition Rates Compared with Ambient Air Quality Objectives ..... 24

Table 7.6 1: Proposed Mitigation Measures and Their Effectiveness ..... 27

Table 7.7 1: Characterization of Residual Effect an Increase in Air Pollutant Concentrations..... 29

Table 7.7 2: Characterization of Residual Effect an Increase in Ambient Criteria Air Contaminants and Fugitive Dust ..... 30

Table 7.7 3: Confidence Ratings and Definitions..... 31

Table 7.7 4: Summary of Air Quality Residual Effects ..... 32

Table 7.8 1: List of Projects and Activities Included in the Air Quality Cumulative Effects Assessment ..... 33

Table 7.8 2: Interaction with Effects of other Past, Present, or Reasonably Foreseeable Future Projects and Activities..... 34

Table 7.8 3: Summary of Residual Cumulative Effects Assessment ..... 35

NOISE EFFECTS ASSESSMENT

VOLUME 3

CHAPTER 8 | PAGE

Table 8.3 1: Summary of Consultation Feedback on Noise..... 7

Table 8.3 2: Measurement Indicators for Noise..... 8

Table 8.5 1: Noise Criteria Considered for Noise Assessment ..... 13

Table 8.5 2: Potential Project Interactions, Noise..... 14

Table 8.6 1: Proposed Mitigation Measures and Their Effectiveness ..... 23

Table 8.7 1: Characterization of Residual Effect from an Increase in Noise Level ..... 24

Table 8.7 2: Characterization of Residual Effect from an Increase in Noise Level ..... 25

Table 8.7 3: Confidence Ratings and Definitions..... 26

Table 8.7 4: Summary of Noise Residual Effects ..... 27

Table 8.8 1: List of Projects and Activities Included in the Cumulative Effects Assessment..... 28

Table 8.8 2: Interaction with Effects of other Past, Present, or Reasonably Foreseeable Future Projects and Activities..... 29

Table 8.8 3: Summary of Noise Residual Cumulative Effects Assessment..... 30

LANDFORMS AND NATURAL LANDSCAPES

VOLUME 3

CHAPTER 9 | PAGE

Table 9.2-1: Relevant Legislation Applicable to Landforms and Natural Landscapes ..... 7

Table 9.3-1: Summary of Consultation Feedback on Ecosystems and Vegetation..... 11

Table 9.3-2: Sub-Components, Assessment Endpoints and Measurement Indicators for Landforms and Natural Landscapes Intermediate Components ..... 13

Table 9.3-3: Temporal Boundaries for the Effects Assessment..... 15

Table 9.4-1: Summary of Surficial Materials Mapped in the LSA and PFSA ..... 29

Table 9.4-2: Terrain Stability Class Mapped in the LSA and PFSA ..... 31

Table 9.4-3: Summary of Geohazards and Snow Avalanches Mapped for the PFSA ..... 39

Table 9.4-4: Summary of Soil Map Units Mapped in the PFSA..... 41

Table 9.4-5: Summary of Soil Erosion Potential mapped in the PFSA ..... 54

Table 9.4-6: Number of Samples Exceeding CCME Soil Metal Concentration Thresholds..... 61

Table 9.4-7: Soil Salvage Potential Categories..... 61

Table 9.5-1: Landforms and Natural Landscapes Interaction Matrix ..... 63

Table 9.5-2: Measurement Indicators for Landforms and Natural Landscapes Intermediate Components..... 69

Table 9.5-3: Loss and Alteration of Soil for each Soil Management Unit ..... 74

Table 9.5-4: Loss and Alteration of Soil per Infrastructure Unit..... 75

Table 9.5-5: Fugitive Dust and Acidification Results..... 84

Table 9.5-6: SMU Sensitivity to Acidification ..... 87

Table 9.5-7: Summary of Terrain Stability Class associated with Project Footprint..... 106

Table 9.5-8: Summary of Geohazard Type with Respect to Project Infrastructure..... 106

Table 9.5-9: Summary of Terrain Stability Classes with Respect to Project Infrastructure ..... 107

Table 9.6-1: Best Management Practices for Landforms and Natural Landscapes ..... 112

Table 9.6-2: Project Mitigation Measures ..... 115

Table 9.6-3: Management Implications of Terrain Stability Classes..... 120

Table 9.6-4:	Proposed Mitigation Measures and Their Effectiveness .....	124
Table 9.7-1:	Characterization of Residual Effect on Landforms and Natural Landscapes ICs .....	128
Table 9.7-2:	Attributes of Likelihood .....	129
Table 9.7-3:	Confidence Ratings and Definitions.....	130
Table 9.7-4:	Characterization of Residual Effects on Soil Quantity .....	131
Table 9.7-5:	Characterization of Residual Effect on Soil Quality .....	133
Table 9.7-6:	Summary of the Residual Effects Assessment .....	135
Table 9.8-1:	Past, Present and Reasonably Foreseeable Projects and Activities.....	138
Table 9.8-2:	Interaction with Effects of other Past, Present, or Reasonably Foreseeable Future Projects and Activities.....	140
Table 9.8-3:	Summary of Cumulative Effects for Landforms and Natural Landscapes Intermediate Components in relation to Past, Present and Future Activities.....	141
Table 9.8-4:	Summary of Residual Cumulative Effects Assessment .....	143

HYDROGEOLOGY EFFECTS ASSESSMENT

VOLUME 3

CHAPTER 10 | PAGE

Table 10.3-1:	Summary of Consultation Feedback on Hydrogeology .....	8
Table 10.3-2:	Measurement Indicators for Hydrogeology .....	10
Table 10.3-3:	Spatial Boundaries of the Hydrogeology Assessment .....	11
Table 10.3-4:	Temporal Boundaries for Hydrogeology.....	13
Table 10.4-1:	Historical Activities .....	15
Table 10.4-2:	Baseline Hydrogeological Studies .....	16
Table 10.5-1:	Potential Project Interactions, Hydrogeology.....	34
Table 10.6-1:	Proposed Mitigation Measures and their Effectiveness.....	41
Table 10.7-1:	Characterization of Residual Effect on Hydrogeology .....	42
Table 10.7-2:	Attributes of Likelihood .....	44
Table 10.7-3:	Summary of the Residual Effects Assessment to the Hydrogeology.....	50
Table 10.8-1:	Interaction with Effects of other Past, Present, or Reasonably Foreseeable Future Projects and Activities.....	53
Table 10.8-2:	Summary of Residual Cumulative Effects Assessment .....	54

## GROUNDWATER QUALITY EFFECTS ASSESSMENT

VOLUME 3

CHAPTER 11 | PAGE

Table 11.3-1:	Summary of Consultation Feedback on Groundwater Quality.....	7
Table 11.3-2:	Measurement Indicators for Groundwater Quality.....	9
Table 11.3-3:	Spatial Boundaries of the Groundwater Quality Assessment .....	10
Table 11.3-4:	Temporal Boundaries of the Groundwater Quality Assessment.....	12
Table 11.4-1:	Past and Current Projects and Activities.....	14
Table 11.4-2:	Baseline Groundwater Quality Studies.....	15
Table 11.4-3:	Summary Statistics for Baseline Groundwater Quality .....	19
Table 11.5-1:	Potential Project Interactions, Groundwater Quality.....	21
Table 11.6-1:	Proposed Mitigation Measures and Their Effectiveness .....	28
Table 11.7-1:	Characterization of Residual Effects on Groundwater Quality.....	29
Table 11.7-2:	Attributes of Likelihood .....	31
Table 11.7-3:	Percent Change from Baseline Groundwater Quality and Comparison to Water Quality Guidelines - Operations.....	34
Table 11.7-4:	Percent Change from Baseline Groundwater Quality and Comparison to Water Quality Guidelines - Closure & Reclamation.....	35
Table 11.7-5:	Percent Change from Baseline Groundwater Quality and Comparison to Water Quality Guidelines - Post-Closure .....	36
Table 11.7-6:	Summary of the Residual Effects Assessment for Groundwater Quality .....	37
Table 11.8-1:	Interaction with Effects of other Past, Present, or Reasonably Foreseeable Future Projects and Activities.....	39
Table 11.8-2:	Summary of Residual Cumulative Effects Assessment .....	39

## HYDROLOGY EFFECTS ASSESSMENT

VOLUME 3

CHAPTER 12 | PAGE

Table 12.3-1:	Summary of Consultation Feedback on Hydrology .....	6
Table 12.3-2:	Assessment Endpoints and Measurement Indicators for Hydrology .....	7
Table 12.3-3:	Spatial Boundaries for the Hydrology Assessment.....	10
Table 12.3-4:	Temporal Boundaries of the Hydrology Assessment.....	10
Table 12.4-1:	Baseline Hydrological Studies.....	13
Table 12.4-2:	Summary of Site Climate Monitoring Stations .....	14
Table 12.4-3:	Monthly Flow Statistics for Bitter and Otter Creeks in l/s/km <sup>2</sup> .....	18



Table 12.4-4:	Monthly Flow Statistics for Goldslide Creek in l/s/km <sup>2</sup> .....	18
Table 12.4-5:	Monthly Baseflow Summary for Bitter, Otter and Goldslides Creeks .....	19
Table 12.5-1:	Potential Project Interactions, Hydrology.....	20
Table 12.6-1:	Proposed Mitigation Measures and Their Effectiveness .....	26
Table 12.7-1:	Characterization of Residual Effects on Hydrology.....	28
Table 12.7-2:	Attributes of Likelihood .....	29
Table 12.7-3:	Average Percent Change in Water Quantity from Baseline Conditions (by Month) .....	31
Table 12.7-4:	Average Percent Change in Water Quantity from Summer High Flows.....	32
Table 12.7-5:	Summary of the Residual Effects Assessment for Hydrology.....	34
Table 12.8-1:	Interaction with Effects of other Past, Present, or Reasonably Foreseeable Future Projects and Activities.....	37
Table 12.8-2:	Summary of Residual Cumulative Effects Assessment .....	38

**SURFACE WATER QUALITY EFFECTS ASSESSMENT**

VOLUME 3

CHAPTER 13 | PAGE

Table 13.2-1:	Summary of Applicable Legislation, Regulations, and Guidelines for Surface Water Quality.....	3
Table 13.3-1:	Summary of Consultation Feedback on Surface Water Quality .....	6
Table 13.3-2:	Assessment Endpoints and Measurement Indicators for Surface Water Quality .....	8
Table 13.3-3:	Temporal Boundaries for the Effects Assessment of Surface Water Quality .....	11
Table 13.4-1:	Summary of Baseline Water Quality Sampling for the Red Mountain Project, 1990-2016 .....	18
Table 13.4-2:	Water Quality Guidelines for Freshwater Aquatic Life .....	22
Table 13.4-3:	Baseline Surface Water Monitoring Locations and Descriptions .....	25
Table 13.4-4:	Exceedance of Guidelines for All Sites.....	29
Table 13.5-1:	Potential Project Interactions, Surface Water Quality .....	31
Table 13.6-1:	Mitigation Measures for Mine Discharge .....	43
Table 13.6-2:	Mitigation Measures for TMF Discharge .....	44
Table 13.6-3:	Mitigation Measures for Road Runoff .....	45
Table 13.6-4:	Mitigation Measures for Non-Contact Water Runoff.....	46
Table 13.6-5:	Mitigation Measures for Aerial Deposition .....	47
Table 13.6-6:	Proposed Mitigation Measures and Their Effectiveness .....	49
Table 13.7-1:	Characterization of Residual Effect on Surface Water Quality .....	51

Table 13.7-2: Surface Water Quality Parameters Included in Predictions ..... 54

Table 13.7-3: Summary of Parameters that Exceed CCME or BC Water Quality Guidelines (Base Case)..... 54

Table 13.7-4: Summary of the Residual Effects Assessment ..... 65

Table 13.8-1: List of Projects and Activities with potential to interact within the Surface Water Quality Residual Effects ..... 67

Table 13.8-2: Interaction with Effects of Reasonably Foreseeable Future Projects and Activities ..... 69

Table 13.8-3: Summary of Residual Cumulative Effects Assessment ..... 70

SEDIMENT QUALITY EFFECTS ASSESSMENT

VOLUME 3

CHAPTER 14 | PAGE

Table 14.2-1: Summary of Applicable Legislation, Regulations, and Guidelines for Sediment Quality, Red Mountain Project..... 3

Table 14.3-1: Consultation Feedback ..... 6

Table 14.3-2: Assessment Endpoints and Measurement Indicators for Sediment Quality..... 7

Table 14.3-3: Temporal Boundaries for the Effects Assessment of Sediment Quality..... 10

Table 14.4-1: Summary of Sediment Quality Sampling for the Red Mountain Project, 1993-2016..... 17

Table 14.4-2: Baseline Sediment Quality Sampling Sites and Descriptions..... 18

Table 14.4-3: Summary of Sediment Quality Guidelines ..... 22

Table 14.4-4: Sediment Quality Summary Statistics for Goldslide Creek (GSC05 and GSC02)..... 24

Table 14.4-5: Sediment Quality Summary Statistics for Otter Creek (OC04) ..... 25

Table 14.4-6: Sediment Quality Summary Statistics for Bitter Creek (BC02, BC04, BC13.4, BC08)..... 27

Table 14.4-7: Sediment Quality Summary Statistics for Bear River (BR06 and BR08)..... 29

Table 14.4-8: Sediment Quality Summary Statistics for American Creek (AC02)..... 30

Table 14.4-9: Sites and Parameters which were Statistically Different than their Respective Reference Sites Under Baseline Conditions..... 31

Table 14.4-10: Exceedance of Guidelines for All Sites and Samples..... 32

Table 14.5-1: Potential Project Interactions, Sediment Quality ..... 33

Table 14.5-2: Water Quality Components and Interactions with Sediment Quality..... 38

Table 14.6-1: Proposed Mitigation Measures and Their Effectiveness ..... 47

Table 14.7-1: Characterization of Residual Effects on Sediment Quality ..... 49

Table 14.7-2: Sediment Quality Guidelines, Baseline, and Predicted Surface Water Quality for Goldslide Creek ..... 52

Table 14.7-3: Sediment Quality Guidelines and Predicted Surface Water Quality for Rio Blanco Creek ..... 53

Table 14.7-4: Sediment Quality Guidelines, Baseline, and Predicted Surface Water Quality for Bitter Creek (BC08, BC06 and BC02) ..... 53

Table 14.7-5: Summary of the Residual Effects Assessment ..... 59

Table 14.8-1: List of Projects and Activities with Potential to Interact within the Sediment Quality Residual Effects ..... 61

Table 14.8-2: Interaction with Effects of Reasonably Foreseeable Future Projects and Activities ..... 63

Table 14.8-3: Summary of Residual Cumulative Effects Assessment ..... 64

VEGETATION AND ECOSYSTEMS EFFECTS ASSESSMENT

VOLUME 3

CHAPTER 15 | PAGE

Table 15.2 1: Legislation and Regulations Relevant to Vegetation and Ecosystems ..... 6

Table 15.3 1: Summary of Consultation Feedback on Vegetation and Ecosystems ..... 11

Table 15.3 2: Assessment Endpoints and Measurement Indicators for Vegetation and Ecosystems Valued Components ..... 13

Table 15.3 3: Temporal Boundaries for the Effects Assessment ..... 15

Table 15.4 1: Summary of Soil Map Units Mapped in the PFSA ..... 30

Table 15.4 2: BEC Units in the RSA, LSA, and PFSA ..... 43

Table 15.4 3: Vegetated Alpine Ecosystems Mapped within the LSA and PFSA ..... 51

Table 15.4 4: Vegetated Parkland Ecosystems Mapped within the LSA and PFSA ..... 52

Table 15.4 5: Old Growth and Mature Forest Ecosystems Mapped within the LSA and PFSA ..... 54

Table 15.4 6: Floodplain Ecosystems Mapped within the LSA and PFSA ..... 55

Table 15.4 7: Wetland Ecosystems Mapped within the LSA and PFSA ..... 57

Table 15.4 8: BC CDC Status Ranks and Definitions ..... 58

Table 15.4 9: NatureServe Subnational Conservation Status Ranks and Definitions ..... 58

Table 15.4 10: BC CDC Listed Ecosystems Mapped within the LSA and the PFSA ..... 59

Table 15.4 11: Rare Vascular Plants Observed within the LSA ..... 60

Table 15.4 12: Rare Lichens Observed within the LSA ..... 61

Table 15.4 13: Rare Moss and Liverwort Observed within the LSA ..... 62

Table 15.5 1: Potential Project Interactions, Vegetation and Ecosystems ..... 67

Table 15.5 2: Loss and Alteration of Ecologically Valuable Soils by Project Component ..... 76

Table 15.5 3: Comparison of Surficial Material Type in the LSA and PFSA ..... 84

Table 15.5 4: Loss and Alteration of Alpine Ecosystems ..... 89

Table 15.5 5: Loss and Alteration of Parkland Ecosystems ..... 91

Table 15.5 6: Loss and Alteration of Old Growth and Mature Forested Ecosystems..... 95

Table 15.5 7: Loss and Alteration of Floodplain Ecosystems..... 99

Table 15.5 8: Loss and Alteration of Wetland Ecosystems..... 101

Table 15.5 9: Loss and Alteration of Rare Plants, Lichens, and Associated Habitat..... 104

Table 15.5 10: Dust Deposition at Rare Plant and Lichen Locations ..... 106

Table 15.5 11: Deposition of NO2 and SO2 at Rare Plant and Lichen Locations..... 109

Table 15.5 12: Summary of Potential Effects to Vegetation and Ecosystem VCs ..... 114

Table 15.5 13: Summary of Potential Effects to Rare Plants and Lichens ..... 115

Table 15.6 1: Best Management Practices for Vegetation and Ecosystem Valued Components ..... 117

Table 15.6 2: Proposed Mitigation Measures and Their Effectiveness ..... 123

Table 15.7 1: Characterization of Residual Effect on Vegetation and Ecosystems VCs ..... 129

Table 15.7 2: Attributes of Likelihood ..... 130

Table 15.7 3: Confidence Ratings and Definitions..... 131

Table 15.7 4: Characterization of Residual Effect of the Loss of Ecologically Valuable Soils ..... 133

Table 15.7 5: Characterization of Residual Effect of the Alteration of Ecologically Valuable Soils..... 134

Table 15.7 6: Characterization of Residual Effect on Alpine and Parkland Ecosystems..... 136

Table 15.7 7: Characterization of Residual Effect on Old Growth and Mature Forested Ecosystems . 138

Table 15.7 8: Characterization of Residual Effects on BC CDC Listed Ecosystems ..... 139

Table 15.7 9: Characterization of Residual Effect on Rare Plants, Lichens, and Associated Habitat ... 141

Table 15.7 10: Summary of the Residual Effects Assessment for Vegetation and Ecosystems VCs ..... 142

Table 15.8 1: Past, Present and Reasonably Foreseeable Projects and Activities..... 146

Table 15.8 2: Interaction with Effects of other Past, Present, or Reasonably Foreseeable Future  
Projects and Activities..... 148

Table 15.8 3: Summary of Cumulative Effects for Vegetation and Ecosystems VCs in relation to  
Past, Present, and Future Activities ..... 150

Table 15.8 4: Summary of Residual Cumulative Effects Assessment ..... 157

## WILDLIFE AND WILDLIFE HABITAT EFFECTS ASSESSMENT

VOLUME 3

CHAPTER 16 | PAGE

Table 16.2 1:	Summary of Applicable Federal Legislation for Wildlife.....	5
Table 16.2 2:	Summary of Applicable Provincial Legislation for Wildlife .....	7
Table 16.2 3:	Summary of Applicable Provincial Strategies, Guidelines, Plans, and Best Management Practices for Wildlife.....	9
Table 16.2 4:	Wildlife Management Goals and Objectives Established by Land Use Plans .....	12
Table 16.3 1:	Summary of Consultation on Wildlife VCs.....	16
Table 16.3 2:	Wildlife Valued Components .....	19
Table 16.3 3:	Species at risk not assessed for effects as a Valued Component .....	21
Table 16.3 4:	Wildlife VC Selection Rationale, Assessment Endpoints and Measurement Indicators...	24
Table 16.3 5:	Zones of Influence for Wildlife Valued Components.....	26
Table 16.3 6:	Temporal Boundaries for the Effects Assessment on Wildlife .....	33
Table 16.4 1:	Summary of Baseline Investigations Conducted Between 2015 and 2017 .....	39
Table 16.4 2:	Migratory Breeding Bird Species in Associated Habitat Guilds .....	66
Table 16.5 1:	Project Interaction Matrix for Wildlife.....	86
Table 16.6 1:	Proposed Mitigation Measures and Their Effectiveness .....	110
Table 16.7 1:	Characterization of Residual Effects on Wildlife.....	122
Table 16.7 2:	Attributes of Likelihood .....	123
Table 16.7 3:	Summary of Change in Habitat Availability — Mountain Goat .....	125
Table 16.7 4:	Summary of Change in Habitat Availability — Grizzly Bear .....	135
Table 16.7 5:	Summary of Change in Habitat Availability — Moose.....	144
Table 16.7 6:	Summary of Change in Habitat Availability — Marten.....	150
Table 16.7 7:	Summary of Change in Habitat Availability — Wolverine .....	152
Table 16.7 8:	Summary of Change in Habitat Availability — Hoary Marmot.....	160
Table 16.7 9:	Summary of Change in Habitat Availability — Bats.....	164
Table 16.7 10:	Summary of Change in Habitat Availability — Bird Guilds .....	168
Table 16.7 11:	Summary of Change in Habitat Availability — MacGillivray's Warbler .....	174
Table 16.7 12:	Summary of Change in Habitat Availability — Black Swift .....	178
Table 16.7 13:	Summary of Change in Habitat Availability — Common Nighthawk.....	181
Table 16.7 14:	Summary of Habitat Availability — Marbled Murrelet: TEM/PEM Model.....	189
Table 16.7 15:	Summary of Habitat Availability — Marbled Murrelet: BC Model.....	189
Table 16.7 16:	Summary of Change in Habitat Availability — Olive-sided Flycatcher .....	195

Table 16.7 17: Summary of Change in Habitat Availability — Northern Goshawk .....	199
Table 16.7 18: Summary of Change in Habitat Availability — Western Screech-owl .....	204
Table 16.7 19: Summary of Change in Habitat Availability — Sooty Grouse .....	208
Table 16.7 20: Summary of Change in Habitat Availability — White-tailed Ptarmigan .....	214
Table 16.7 21: Summary of Change in Habitat Availability — Western Toad .....	220
Table 16.7 22: Summary of Residual Project Effects on Wildlife .....	223
Table 16.8 1: List of Projects and Activities Included in the Cumulative Effects Assessment.....	232
Table 16.8 2: Summary of Past, Present, and Reasonably Foreseeable Future Land Based Activities with Potential to Interact with the Project Effects .....	236
Table 16.8 3: Past, Present, and Foreseeable Future Projects or Activities Interaction Matrix.....	242
Table 16.8 4: Summary of Change in Habitat Availability — Mountain Goat .....	245
Table 16.8 5: Summary of Change in Habitat Availability — Grizzly Bear .....	249
Table 16.8 6: Summary of Change in Habitat Availability — Moose .....	253
Table 16.8 7: Summary of Change in Habitat Availability — Marten.....	256
Table 16.8 8: Summary of Change in Habitat Availability — Wolverine .....	257
Table 16.8 9: Summary of Change in Habitat Availability — Hoary Marmot .....	261
Table 16.8 10: Summary of Change in Habitat Availability — Bats.....	264
Table 16.8 11: Summary of Change in Habitat Availability — Bird Guilds .....	266
Table 16.8 12: Summary of Change in Habitat Availability — MacGillivray’s Warbler .....	267
Table 16.8 13: Summary of Change in Habitat Availability — Black Swift .....	269
Table 16.8 14: Summary of Change in Habitat Availability — Common Nighthawk.....	271
Table 16.8 15: Summary of Change in Habitat Availability — Marbled Murrelet.....	273
Table 16.8 16: Summary of Change in Habitat Availability — Olive-sided Flycatcher .....	275
Table 16.8 17: Summary of Change in Habitat Availability — Northern Goshawk .....	281
Table 16.8 18: Summary of Change in Habitat Availability — Western Screech-owl .....	283
Table 16.8 19: Summary of Change in Habitat Availability — Sooty Grouse .....	285
Table 16.8 20: Summary of Change in Habitat Availability — White-tailed Ptarmigan .....	286
Table 16.8 21: Summary of Residual Cumulative Effects Assessment on Wildlife.....	292
Table 16.9 1: Evaluating Accuracy of Effects Predictions on Wildlife.....	296
Table 16.9 2: Evaluating Effectiveness of Mitigation Approaches .....	296

## AQUATIC RESOURCES EFFECTS ASSESSMENT

## VOLUME 3

## CHAPTER 17 | PAGE

Table 17.2 1:	Summary of Applicable Legislation, Regulations, and Guidelines for Aquatic Resources Effects Assessment, Red Mountain Project .....	3
Table 17.3 1:	Consultation Feedback .....	7
Table 17.3 2:	Assessment Endpoints and Measurement Indicators for Aquatic Resources .....	9
Table 17.3 3:	Temporal Boundaries for the Effects Assessment of Aquatic Resources .....	11
Table 17.4 1:	Baseline Benthic Invertebrate and Periphyton Sampling, 1990-2017.....	18
Table 17.4 2:	Aquatic Resources sampling sites, 1993 .....	19
Table 17.4 3:	Baseline Aquatic Resources sampling sites, 2014-2016 .....	20
Table 17.4 4:	Baseline Aquatic Resources Sampling, 1993 .....	23
Table 17.4 5:	Baseline Benthic Invertebrate and Periphyton Sampling, 2014-2016.....	24
Table 17.4 6:	Baseline Benthic Tissue Sampling (Benthic Invertebrates, Macrophytes, and Periphyton) 2014 .....	24
Table 17.4 7:	Periphyton Community Metrics, 1993.....	30
Table 17.4 8:	Benthic Invertebrate Community Composition by Site, September 1993 .....	31
Table 17.4 9:	Periphyton Biomass Results, 2014 and 2016.....	32
Table 17.4 10:	Periphyton Taxonomic Richness and Diversity, 2014 and 2016 .....	33
Table 17.5 1:	Potential Project Interactions, Aquatic Resources, Red Mountain Project .....	38
Table 17.5 2:	Water Quality Components and Interactions with Aquatic Resources .....	46
Table 17.6 1:	Proposed Mitigation Measures and Their Effectiveness .....	57
Table 17.7 1:	Characterization of Residual Effects on Aquatic Resources .....	59
Table 17.7 2:	Summary of the Residual Effects Assessment .....	75
Table 17.8 1:	List of Projects and Activities with Potential to Interact within the Aquatic Resources Residual Effects.....	78
Table 17.8 2:	Interaction with Effects of Reasonably Foreseeable Future Projects and Activities .....	81
Table 17.8 3:	Summary of Residual Cumulative Effects Assessment .....	84

## FISH AND FISH HABITAT EFFECTS ASSESSMENT

VOLUME 3

CHAPTER 18 | PAGE

Table 18.2-1:	Summary of Applicable Legislation, Regulations, and Guidelines for Fish and Fish Habitat Effects Assessment.....	4
Table 18.3-1:	Consultation Feedback .....	8
Table 18.3-2:	Assessment Endpoints and Measurement Indicators for Fish and Fish Habitat .....	10
Table 18.3-3:	Temporal Boundaries for the Effects Assessment of Fish and Fish Habitat .....	13
Table 18.4-1:	Fish Community Sampling for the Red Mountain Project, 1990-2017 .....	19
Table 18.4-2:	Fish Habitat Field Data Collection for the Red Mountain Project, 1990-2017 .....	21
Table 18.4-3:	Fisheries Sampling Sites, 1993-1994.....	22
Table 18.4-4:	Fisheries Sampling Sites, Bitter Creek Watershed, 2014-2016.....	23
Table 18.4-5:	Fisheries Sampling Sites, Bear River Watershed, 2014-2016 .....	24
Table 18.4-6:	Fish Habitat in the fish-bearing watercourses of the Red Mountain Project LSA .....	34
Table 18.5-1:	Potential Project Interactions, Fish and Fish Habitat.....	50
Table 18.5-2:	Water Quality Components and Interactions with Fish and Fish Habitat .....	57
Table 18.6-1:	Proposed Mitigation Measures and Their Effectiveness .....	69
Table 18.7-1:	Characterization of Residual Effect on Fish and Fish Habitat .....	70
Table 18.7-2:	Summary of the Residual Effects Assessment for Fish and Fish Habitat .....	81
Table 18.8-1:	List of Projects and Activities with potential to interact within the Fish and Fish Habitat Residual Effects .....	83
Table 18.8 2:	Interaction with Effects of Reasonably Foreseeable Future Projects and Activities .....	86

## ECONOMIC EFFECTS ASSESSMENT

VOLUME 3

CHAPTER 19 | PAGE

Table 19.3-1:	Summary of Consultation Feedback on Economic VCs and ICs.....	8
Table 19.3-2:	Assessment Endpoints and Measurement Indicators for Economic VCs .....	12
Table 19.3-3:	Measurement Indicators for Economic ICs.....	13
Table 19.4-1:	Summary of Forest License Holders in the LSA and RSA .....	23
Table 19.5-1:	Potential Project Interactions and Economic Effects.....	27
Table 19.6-1:	Proposed Mitigation Measures and Their Effectiveness .....	44



## SOCIAL EFFECTS ASSESSMENT

## VOLUME 3

## CHAPTER 20 | PAGE

Table 20.3 1:	Summary of Consultation Feedback on Social VCs/ICs.....	8
Table 20.3 2:	Assessment Endpoints and Measurement Indicators for Social VCs.....	11
Table 20.3 3:	Assessment Endpoints and Measurement Indicators for Social ICs.....	13
Table 20.4 1:	Rates of Reportable Infectious Disease in Northwest HSDA and British Columbia, 2015 .....	23
Table 20.4 2:	Wellbeing and Perceptions of Health, 2011/2012.....	25
Table 20.5 1:	Potential Project Interactions, Social VCs and ICs .....	36
Table 20.6 1:	Proposed Mitigation Measures and Their Effectiveness .....	60
Table 20.10 1:	Summary of Consultation Feedback on CULRTP .....	68
Table 20.10 2:	Assessment Endpoints and Measurement Indicators for CULRTP .....	74
Table 20.10 3:	Spatial and Temporal Boundaries for CULRTP.....	77
Table 20.10 4:	Data Sources for CULRTP Effects Assessment .....	78
Table 20.10 5:	TSKLH CULRTP Summary.....	81
Table 20.10 6:	Métis Population within the RDKS.....	82
Table 20.10 7:	Project-Specific Wildlife Baseline Studies.....	84
Table 20.10 8:	Potential Project Interactions, CULRTP.....	88
Table 20.10 9:	Potential Project Interactions and Effects on Fish and Fish Habitat.....	93
Table 20.10 10:	Proposed Mitigation Measures and Their Effectiveness .....	102
Table 20.10 11:	Wildlife and Wildlife Habitat Mitigation Measures .....	104
Table 20.10 12:	Fish and Fish Habitat Mitigation Measures .....	112
Table 20.10 13:	Vegetation and Ecosystems Mitigation Measures .....	115
Table 20.10 14:	Residual Effect Characterization Definitions for Wildlife and Wildlife Habitat and Vegetation and Ecosystems.....	124
Table 20.10 15:	Residual Effect Characterization Definitions for Fish and Fish Habitat .....	125
Table 20.10 16:	Attributes of Likelihood .....	126
Table 20.10 17:	Confidence Ratings and Definitions.....	127
Table 20.10 18:	Characterization of Potential Residual Effects on Habitat Availability .....	128
Table 20.10 19:	Characterization of Potential Residual Effects on Habitat Distribution .....	130
Table 20.10 20:	Characterization of Potential Residual Effects on Mortality Risk .....	130
Table 20.10 21:	Characterization of Residual Effects on Fish Habitat.....	133
Table 20.10 22:	Characterization of Residual Effects on Dolly Varden due to Changes in Water Quality.....	136

Table 20.10 23: Characterization of Residual Effects on Dolly Varden due to Changes in Streamflows ..... 137

Table 20.10 24: Characterization of Potential Residual Effects to Plant Resources..... 139

Table 20.10 25: TSKLH Harvested Plants by Ecosystem VC ..... 141

Table 20.10 26: Summary of the Residual Effects Assessment for CULRTP ..... 144

Table 20.10 27: List of Projects and Activities Considered in the Cumulative Effects Assessment ..... 147

Table 20.10 28: Characterization of Potential Cumulative Effects on Plant Resources ..... 155

Table 20.10 29: Interaction with Effects of other Past, Present, or Reasonably Foreseeable Future Projects and Activities..... 156

HERITAGE EFFECTS ASSESSMENT

VOLUME 3

CHAPTER 21 | PAGE

Table 21.2-1: Summary of Regulatory and Policy Setting for Heritage Effects Assessment ..... 1

Table 21.2-2: RDKS Heritage Registry Sites..... 7

Table 21.3-1: Summary of Consultation Feedback on Heritage Effects Assessment ..... 11

Table 21.3-2: Primary Measurement Indicators and Assessment Endpoint for the Heritage Effects Assessment ..... 16

Table 21.3-3: Spatial and Temporal Boundaries for Selected Heritage VC ..... 17

Table 21.4-1: Data Sources for the Heritage Effects Assessment..... 20

Table 21.5 1: Potential Project Interactions: Cultural and Heritage Resources ..... 26

Table 21.6-1: Proposed Mitigation Measures and Their Effectiveness ..... 35

Table 21.10-1: Cultural and Heritage Resources Summary Table ..... 37

HEALTH EFFECTS ASSESSMENT

VOLUME 3

CHAPTER 22 | PAGE

Table 22.2-1: Relevant BC Ambient Air Quality Objectives ..... 8

Table 22.2-2: Exposure Limits for EMF ..... 9

Table 22.2-3: Health Risk Thresholds..... 12

Table 22.3-1: Summary of Consultation Feedback on Human Health..... 29

Table 22.3-2: Assessment Endpoint and Measurement Indicators for Human Health ..... 31

Table 22.3-3: Temporal Boundaries for the Effects of Human Health ..... 39

Table 22.4-1: Regional Baseline Air Quality Concentrations Used to Determine Representative Baseline Concentrations for the Project Air Quality Assessment.....	50
Table 22.4-2: Summary of Baseline Non-Cancer Risks .....	57
Table 22.4-3: Summary of Baseline Cancer Risks .....	58
Table 22.5-1: Typical Electric and Magnetic Fields Associated with a 138-kV Distribution Line in BC...	60
Table 22.5-2: Exposure Limits for EMF .....	61
Table 22.5-3: Potential Project Interactions, Human Health.....	61
Table 22.5-4: COPCs Identified in Each Media.....	66
Table 22.5-5: COPCs Identified in Each Media after Exposure Pathway Assessment .....	70
Table 22.5-4: Summary of Predicted Non-Cancer Hazards and Cancer Risks .....	71
Table 22.6-1: Proposed Mitigation Measures and Their Effectiveness .....	80

ACCIDENTS AND MALFUNCTIONS

VOLUME 3

CHAPTER 23 | PAGE

Table 23.2-1: Probability/Likelihood Categories.....	7
Table 23.2-2: Consequence Severity Categories.....	8
Table 23.2-3: Risk Matrix based on Probability/Likelihood vs. Consequence .....	9
Table 23.4-1: Moderate Risk Accidents and Malfunctions .....	12
Table 23.4-2: Summary of Moderate Risk Accidents and Malfunctions Interactions with Intermediate and Valued Components .....	14
Table 23.4-3: Assessment of Residual Risk and Significance of Moderate Risk Accidents and Malfunctions on Intermediate and Valued Components .....	17
Table 23.4-4: Low Risk Accidents and Malfunctions.....	45
Table 23.4-5: Summary of Low Risk Accidents and Malfunctions Interactions with Intermediate and Valued Components.....	48
Table 23.4-6: Assessment of Residual Risk and Significance of Low Risk Accidents and Malfunctions on Intermediate and Valued Components .....	51

EFFECTS OF THE ENVIRONMENT ON THE PROJECT

VOLUME 3

CHAPTER 24 | PAGE

Table 24.3 1: Attributes of Likelihood .....	2
Table 24.3 2: Severity of Consequences.....	3

Table 24.5 1: Precipitation Risks and Mitigation Measures ..... 9

Table 24.6 1: Air Temperature Risks and Mitigation Measures ..... 14

Table 24.7 1: Wind Risks and Mitigation Measures ..... 19

Table 24.8 1: Key Characteristics of Project Hydrometric Monitoring Stations..... 20

Table 24.8 2: Mean Monthly Discharge Data from Hydrometric Sections in the Baseline Study Area . 21

Table 24.8 3: Surface Water Flow Risks and Mitigation Measures ..... 22

Table 24.8 4: Unit Peak Flows and Peak Flows in the Project Area..... 25

Table 24.8 5: Annual Seven-Day Low Flow for Return Periods of 2, 5, 10, 25, 50, and 100 years..... 27

Table 24.9 1: Geophysical Risks and Mitigation Measures ..... 30

Table 24.9 2: Exceedance Probability, Return Period, and Peak Ground Acceleration for Seismic Events in the Project Area..... 36

Table 24.10 1: Wildfire Risks and Mitigation Measures ..... 40

Table 24.11 1: Sensitivities of Project Infrastructure to Potential Climate Change Effects ..... 45

TSETSAUT SKII KM LAX HA

VOLUME 4

CHAPTER 25 | PAGE

Table 25.2 1: Summary of TSKLH Aboriginal Interests in the Project Area ..... 15

Table 25.2 2: Project-Specific Wildlife Baseline Studies..... 18

Table 25.4 1: Data Sources for TSKLH..... 22

Table 25.5 1: Potential Project Interactions: TSKLH Aboriginal Interests ..... 24

Table 25.5 2: Potential Project Interactions and Effects on Fish and Fish Habitat..... 31

Table 25.6 1: Proposed Mitigation Measures and Their Effectiveness ..... 43

Table 25.6 2: Wildlife and Wildlife Habitat Mitigation Measures ..... 44

Table 25.6 3: Fish and Fish Habitat Mitigation Measures ..... 52

Table 25.6 4: Vegetation and Ecosystems Mitigation Measures ..... 53

Table 25.7 1: Residual Effect Characterization Definitions for Wildlife and Wildlife Habitat and Vegetation and Ecosystems..... 62

Table 25.7 2: Residual Effect Characterization Definitions for Fish and Fish Habitat ..... 63

Table 25.7 3: Attributes of Likelihood ..... 64

Table 25.7 4: Confidence Ratings and Definitions..... 65

Table 25.7 5: Characterization of Potential Residual Effects on Habitat Availability ..... 66

Table 25.7 6: Characterization of Potential Residual Effects on Habitat Distribution ..... 68

Table 25.7 7: Characterization of Potential Residual Effects on Mortality Risk ..... 68

Table 25.7 8:	Characterization of Residual Effects on Fish Habitat.....	71
Table 25.7 9:	Characterization of Residual Effects on Dolly Varden due to Changes in Water Quality.....	74
Table 25.7 10:	Characterization of Residual Effects on Dolly Varden due to Changes in Streamflows ...	75
Table 25.7 11:	Characterization of Potential Residual Effects to Plant Resources.....	77
Table 25.7 12:	TSKLH Harvested Plants by Ecosystem VC.....	79
Table 25.7 13:	Summary of the Residual Effects Assessment on TSKLH’s Aboriginal Interests.....	81
Table 25.9 1:	TSKLH Issue Summary Table .....	82

## MÉTIS NATION BC

## VOLUME 4

## CHAPTER 26 | PAGE

Table 26.2 1:	Métis Population within the RDKS.....	7
Table 26.2 2:	Métis and Non-Aboriginal Peoples (Age 25 – 64) level of education in BC (2006).....	8
Table 26.2 3:	Project-Specific Wildlife Baseline Studies.....	11
Table 26.4 1:	Data Sources for MNBC .....	15
Table 26.5 1:	Potential Project Interactions: MNBC Aboriginal Interests .....	17
Table 26.5 2:	Potential Project Interactions and Effects on Fish and Fish Habitat.....	24
Table 26.6 1:	Proposed Mitigation Measures and Their Effectiveness .....	36
Table 26.6 2:	Wildlife and Wildlife Habitat Mitigation Measures .....	38
Table 26.6 3:	Fish and Fish Habitat Mitigation Measures .....	46
Table 26.6 4:	Vegetation and Ecosystems Mitigation Measures .....	47
Table 26.7 1:	Residual Effect Characterization Definitions for Wildlife and Wildlife Habitat and Vegetation and Ecosystems.....	57
Table 26.7 2:	Residual Effect Characterization Definitions for Fish and Fish Habitat .....	58
Table 26.7 3:	Attributes of Likelihood .....	59
Table 26.7 4:	Confidence Ratings and Definitions.....	60
Table 26.7 5:	Characterization of Potential Residual Effects on Habitat Availability.....	61
Table 26.7 6:	Characterization of Potential Residual Effects on Habitat Distribution .....	63
Table 26.7 7:	Characterization of Potential Residual Effects on Mortality Risk .....	63
Table 26.7 8:	Characterization of Residual Effects on Fish Habitat.....	66
Table 26.7 9:	Characterization of Residual Effects on Dolly Varden due to Changes in Water Quality. 69	
Table 26.7 10:	Characterization of Residual Effects on Dolly Varden due to Changes in Streamflows ...	70
Table 26.7 11:	Characterization of Potential Residual Effects to Plant Resources.....	72

Table 26.7 12: Summary of the Residual Effects Assessment on MNBC’s Aboriginal Interests..... 74  
 Table 26.10 1: MNBC Issue Summary Table ..... 75

**NISGA’A NATION**

VOLUME 4

CHAPTER 27 | PAGE

Table 27.2-1: Nisga'a Language Characteristics (2011) ..... 13  
 Table 27.2-2: Nisga'a Nation Population (Dec 2016) ..... 14  
 Table 27.2-3: Age Characteristics of Nisga'a Nation (2011/2006) ..... 15  
 Table 27.2-4: Nisga’a Population 2012 - 2016 ..... 15  
 Table 27.2-5: Mobility Characteristics of Nisga’a Villages ..... 16  
 Table 27.2-6: Condition of Housing in Gingolx and Laxgalts'ap (2011) ..... 18  
 Table 27.2-7: CWB Score in Nisga'a Villages and Aboriginal and Non-Aboriginal Communities..... 23  
 Table 27.2-8: Children at Risk Indicators (2012)..... 23  
 Table 27.2-9: Youth at Risk Indicators (2012) ..... 24  
 Table 27.2-10: Indicators of Health Problems in the Nisga’a LHA and Surrounding Areas ..... 25  
 Table 27.2-11: WSN Positions (Jan 2017) ..... 28  
 Table 27.2-12: Gitlaxt'aamiks Village Government ..... 28  
 Table 27.2-13: Gitwinksihlkw Village Government..... 29  
 Table 27.2-14: Laxgalts'ap Village Government ..... 29  
 Table 27.2-15: Gingolx Village Government ..... 29  
 Table 27.2-16: Education Characteristics for Nisga'a Villages (2011/2006) ..... 30  
 Table 27.2-17: Nisga’a Nation Workforce Characteristics ..... 31  
 Table 27.2-18: Top Employers of Nisga’a Citizens Living on Nisga’a Lands ..... 32  
 Table 27.2-19: Income Characteristics for Nisga'a Villages (2011/2006) ..... 33  
 Table 27.2-20: Businesses Located in Nisga’a Villages (2006) ..... 35  
 Table 27.3-1: Phases of Aboriginal Consultation and Engagement..... 41  
 Table 27.4-1: Nisga'a Nation 8(e) Interests to be Assessed..... 51  
 Table 27.4-2: NLG Feedback on 8(e) Assessment and IDM Responses ..... 53  
 Table 27.4-3: NLG Feedback on Mitigation Measures..... 62  
 Table 27.4-4: Attributes of Likelihood ..... 69  
 Table 27.4-5: Confidence Ratings and Definitions..... 70  
 Table 27.4-6: Potential Project Interactions and Effects on Fish and Fish Habitat..... 74

Table 27.4-7: Proposed Mitigation Measures for Fish and Fish Habitat .....	79
Table 27.4-8: Residual Effect Characterization Definitions for Fish and Fish Habitat .....	80
Table 27.4-9: Characterization of Residual Effects on Fish Habitat.....	82
Table 27.4-10: Characterization of Residual Effects on Dolly Varden due to Changes in Water Quality.	85
Table 27.4-11: Characterization of Residual Effects on Dolly Varden due to Changes in Streamflows ...	86
Table 27.4-12: Proposed Mitigation Measures for Wildlife and Wildlife Habitat .....	92
Table 27.4-13: Residual Effect Characterization Definitions for Wildlife and Wildlife Habitat .....	100
Table 27.4-14: Potential Residual Effects on Grizzly Bear .....	101
Table 27.4-15: Potential Residual Effects on Moose .....	101
Table 27.4-16: Potential Residual Effects on Mountain Goat.....	102
Table 27.4-17: Potential Residual Effects on Migratory Birds .....	103
Table 27.4-18: Potential Effects and Measurable Parameters for Access.....	107
Table 27.5-1: Nisga'a Nation 8(f) Interests .....	117
Table 27.5-2: Potential Project Interactions with Nisga'a Nation Economic, Social, and Cultural Interests .....	119
Table 27.5-3: Likelihood Ratings and Definitions.....	144
Table 27.5-4: Confidence and Ratings Definitions.....	144
Table 27.5-5: Summary of Economic, Social, and Cultural Effects .....	145
Table 27.1-1: Nisga'a Nation Issue Summary Table.....	150

**PUBLIC CONSULTATION**

VOLUME 4

CHAPTER 28 | PAGE

Table 28.3-1: Demographics of Stewart and RDKS.....	4
Table 28.3-2: RDKS Board of Directors .....	7
Table 28.4-1: Phases of Public Consultation.....	11
Table 28.5-1: Community, Stakeholder, and Public Key Issues Summary Table .....	18

**MANAGEMENT PLANS**

VOLUME 5

CHAPTER 29 | PAGE

Table 29.1-1: Core Elements of IDM's Environmental Management System .....	7
Table 29.4-1: Relevant Provincial and Federal Ambient Air Quality Objectives.....	30

Table 29.5-1:	Red Mountain Management and Monitoring Plans related to the AEMRP .....	41
Table 29.5-2:	AEMP Sampling Locations and Descriptions.....	45
Table 29.5-3:	AEMP Monitoring Components .....	48
Table 29.5-4:	Summary of AEMP Monitoring Components .....	49
Table 29.7-1:	Chance Find Contact Information.....	59
Table 29.12-1:	Potential Hazardous Materials Used or Generated by Project Phase .....	80
Table 29.15-1:	Geological Units Present at Aggregate Sources and Rock Cuts .....	103
Table 29.15-2:	Quantities of Aggregate by Project Phase .....	104
Table 29.15-3:	Ore Production and Backfilling Schedule.....	111
Table 29.15-4:	Roles and Responsibilities.....	119
Table 29.16-1:	Noise Criteria Considered from Environment Canada (2009) .....	121
Table 29.18-1:	Monthly Precipitation Statistics for Bromley Humps, 500 masl.....	137
Table 29.18-2:	Monthly Precipitation Statistics for the Mine Site, 1500 masl .....	137
Table 29.18-3:	Intensity-Duration Frequencies for Bromley Humps, 500 masl .....	138
Table 29.18-4:	Intensity-Duration Frequencies for the Mine Site, 1,500 masl.....	138
Table 29.18-5:	Surface and Groundwater Monitoring Locations .....	148
Table 29.18-6:	Surface Water Monitoring Parameters .....	151
Table 29.18-7:	Groundwater Monitoring Parameters.....	153
Table 29.18-8:	Water Management Plan Roles and Responsibilities .....	156
Table 29.22-1:	Reporting Requirements Regarding Tailings Management Under the Code .....	197
Table 29.22-2:	Roles and Responsibilities for Tailings Management .....	200
Table 29.26-1:	Summary of Applicable Federal Legislation for Wildlife.....	230
Table 29.26-2:	Examples of Applicable Federal Strategies, Guidelines, Plans, and Best Management Practices for Wildlife.....	231
Table 29.26-3:	Summary of Applicable Provincial Legislation for Wildlife .....	232
Table 29.26-4:	Summary of Applicable Provincial Strategies, Guidelines, Plans, and Best Management Practices for Wildlife .....	234
Table 29.26-5:	Wildlife Management Goals and Objectives Established by Land Use Plans .....	237
Table 29.26-6:	Wildlife Valued Components .....	240
Table 29.26-7:	Critical and Cautionary Periods for Vegetation Clearing and No-Disturbance Buffers for Wildlife .....	247
Table 29.26-8:	Summary of General Project Monitoring Related to Wildlife .....	255



CONCLUSIONS

VOLUME 6

CHAPTER 31 | PAGE

Table 31.5-1: Conclusions – Residual Effects.....	7
Table 31.5-2: Conclusions – Mitigation.....	25