M3-PN110063 June 2012



Morelos Gold Project



Guajes and El Limon Open Pit Deposits Updated Mineral Resource Statement Form 43-101F1 Technical Report Guerrero, Mexico

Effective Date of Mineral Resource: 11 June 2012 Effective Date of Report: 13 June 2012 Report Issue Date: 18 June 2012

Prepared by:

Daniel H. Neff, P.E Thomas L. Drielick, P.E. Edward J.C. Orbock III, SME Registered Member Mark Hertel, SME Registered Member

> REVISION 0 Prepared For:





M3 Engineering & Technology Corporation • 2051 West Sunset Road, Tucson, AZ 85704 • 520.293.1488



DATE AND SIGNATURES PAGE

This report is current as of its date of issue, 18 June 2012. The effective date of the Mineral Resource is 11 June 2012. The effective date of the report is 13 June 2012. See the following pages for certificates of qualified persons. The signatures of the Qualified Persons ("QPs") are listed below.

<u>"signed"</u> Daniel H. Neff, P.E.

<u>18 June 2012</u> Date

<u>"signed"</u> Thomas L. Drielick, P.E. 18 June 2012

Date

<u>"signed"</u> Edward J.C. Orbock III, RM SME <u>18 June 2012</u> Date

<u>"signed"</u> Mark Hertel, RM SME 18 June 2012 Date



CERTIFICATE of QUALIFIED PERSON

- I, Daniel H. Neff, P.E., do hereby certify that:
- 1. I am currently employed as President by:

M3 Engineering & Technology Corporation 2051 W. Sunset Road, Ste. 101 Tucson, Arizona 85704 U.S.A.

- 2. I am a graduate of the University of Arizona and received a Bachelor of Science degree in Civil Engineering in 1973 and a Master of Science degree in Civil Engineering in 1981.
- 3. I am a:
 - Registered Professional Engineer in the State of Arizona (No. 11804 & 13848)
- 4. I have practiced civil and structural engineering and project management for 37 years. I have worked for engineering consulting companies for 12 years and for M3 Engineering & Technology Corporation for 25 years.
- 5. 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.
- 6. I am responsible for the preparation of sections 1, 2, 3, 4, 5, 24, 25, 26 and 27 of the technical report titled "Morelos Gold Project, Guajes and El Limon Open Pit Deposits, Updated Mineral Resource Statement, Form 43-101F1 Technical Report, Guerrero, Mexico" dated June 18, 2012 (the "Technical Report").
- 7. I have prior involvement with the property that is the subject of the Technical Report. I was a contributing author of a previous technical report on the subject property entitled "Torex Gold Resources Inc., Morelos Gold Project, Guerrero, Mexico, NI 43-101 Technical Report Underground and Open Pit Resources" dated January 26, 2011.
- 8. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information required to be disclosed to make the report not misleading.
- 9. I have read NI 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
- 10. I am independent of Torex Gold Resources Inc., applying all of the tests in section 1.5 of NI 43-101.

- 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 visited the Morelos property on April 2 to 4, 2012.

Dated this 18th day of June, 2012.

"signed"

Signature of Qualified Person

Daniel H. Neff Print name of Qualified Person

CERTIFICATE of QUALIFIED PERSON

- I, Thomas L. Drielick, P.E., do hereby certify that:
- 1. I am currently employed as Sr. Vice President by:

M3 Engineering & Technology Corporation 2051 W. Sunset Road, Ste. 101 Tucson, Arizona 85704 U.S.A.

- 2. I am a graduate of Michigan Technological University and received a Bachelor of Science degree in Metallurgical Engineering in 1970. I am also a graduate of Southern Illinois University and received an M.B.A. degree in 1973.
- 3. I am a:
 - Registered Professional Engineer in the State of Arizona (No. 22958)
 - Registered Professional Engineer in the State of Michigan (No. 6201055633)
 - Member in good standing of the Society for Mining, Metallurgy and Exploration, Inc. (No. 850920)
- 4. I have practiced metallurgical and mineral processing engineering and project management for 41 years. I have worked for mining and exploration companies for 18 years and for M3 Engineering & Technology Corporation for 23 years.
- 5. 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.
- 6. I am responsible for the preparation of Section 1.12 and Section 13 "Mineral Processing and Metallurgical Testing", of the technical report titled "Morelos Gold Project, Guajes and El Limon Open Pit Deposits, Updated Mineral Resource Statement, Form 43-101F1 Technical Report, Guerrero, Mexico," dated June 18, 2012 (the "Technical Report").
- 7. I have prior involvement with the property that is the subject of the Technical Report. I was a contributing author of a previous technical report on the subject property entitled "Torex Gold Resources Inc., Morelos Gold Project, Guerrero, Mexico, NI 43-101 Technical Report Underground and Open Pit Resources" dated January 26, 2011.
- 8. 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 required to be disclosed to make the report not misleading.

- 9. I am independent of Torex Gold Resources Inc., applying all of the tests in section 1.5 of NI 43-101.
- 10. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
- 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.

Dated this 18th day of June, 2012.

"signed"

Signature of Qualified Person

Thomas L. Drielick Print name of Qualified Person



CERTIFICATE OF QUALIFIED PERSON

Edward J.C. Orbock III, SME Registered Member AMEC E&C Services, Inc. 780 Vista Blvd., Suite 100 Sparks, NV., 89434 Tel 775-331-2375 Fax: 775-331-4153 edward.orbock@amec.com

I, Edward J.C. Orbock III, SME Registered Member, am employed as a Principal Geologist with AMEC E&C Services Inc.

This certificate applies to the technical report entitled "Morelos Gold Project, Guajes and El Limon Open Pit Deposits, Updated Mineral Resource Statement, Form 43-101F1 Technical Report, Guerrero, Mexico" (the "Technical Report") dated 18 June 2012.

I am a Registered Member of the Society of Mining, Metallurgy and Exploration (# 4038771).

I graduated from the University of Nevada with a Master of Science in Economic Geology degree in 1992. I have practiced my profession from 1981 through 2001 and continuously since 2005 and have been involved in mining operations in Nevada and California and preparation of scoping, prefeasibility, and feasibility level studies for projects in USA, Canada, and Peru.

As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument 43–101 *Standards of Disclosure for Mineral Projects* ("NI 43–101").

I visited the Morelos Project on September 1 to 3, 2009 and again on March 1 to 3, 2011.

I am responsible for Sections 6, 7, 8, 9, 10, 11, 12, the portions of Section 14 that pertain to Mineral Resource estimation of the El Limon deposit (14.1 to 14.3 and 14.5 to 14.8), 23, and those portions of the Summary, Interpretations and Conclusions and Recommendations that pertain to those Sections of the Technical Report (25.2, 25.3.2, 25.3.3, 26.1.1, 26.1.2, 26.1.6, and 27).

I am independent of Torex Gold Resources, Inc. as independence is described by Section 1.5 of NI 43-101.

I have been involved with the Morelos Project since 2009 during the preparation of a mineral resource estimate and subsequent completion of a technical report, and was a co-author on the following technical reports:

Orbock, E., Long, S., Hertel, M., Kozak, A., 2009: Gleichen Resources Ltd. Morelos Gold Project, Guerrero, Mexico NI 43-101 Technical Report: effective date 06 October, 2009.

Neff, D., Orbock, E., Drielick, T., 2011: Torex Gold Resources Inc. Morelos Gold Project Guerrero, Mexico NI 43-101 Technical Report – Underground and Open Pit Resources: effective date 22 October 2010.

I have read NI 43–101, and the portions of the Technical Report, for which I am responsible, have been prepared in compliance with that Instrument.



As of the date of this certificate, to the best of my knowledge, information and belief, those sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

"signed and sealed"

Edward J.C. Orbock III, SME Registered Member

Date: 18 June 2012



CERTIFICATE OF QUALIFIED PERSON

Mark P. Hertel, SME Registered Member AMEC E&C Services, Inc. 1640 Stapley Dr., Suite 241 Mesa, AZ., 85204-6667 Tel 480-253-4930 Fax: 480-253-4932 mark.hertel@amec.com

I, Mark P Hertel, SME Registered Member, am employed as a Principal Geologist with AMEC E&C Services Inc.

This certificate applies to the technical report entitled "Morelos Gold Project, Guajes and El Limon Open Pit Deposits, Updated Mineral Resource Statement, Form 43-101F1 Technical Report, Guerrero, Mexico" (the "Technical Report") dated 18 June 2012.

I am a Registered Member of Society of Mining, Metallurgy and Exploration (# 4046984).

I graduated from Southern Illinois University, Carbondale, Illinois in 1978 with a B.S. degree in Geology and from Metropolitan State College, Denver Colorado, in 1987 with a B.S. degree in Mathematics. I have practiced my profession continuously since 1988 and have been involved in mining operations in Nevada and Arizona. I have been directly involved in exploration, resource and reserve estimation, geologic modeling and mine planning for a variety of commodities including uranium, oil, copper, cobalt, gold, silver and industrial minerals.

As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument 43–101 *Standards of Disclosure for Mineral Projects* ("NI 43–101").

I visited the Morelos Project on March 1 to 3, 2011.

I am responsible for portions of Section 14 that pertain to Mineral Resource estimation of the Guajes deposit (14.4, 14.7, 14.8), and those portions of the Summary, Interpretations and Conclusions and Recommendations that pertain to those Sections of the Technical Report (25.2, 25.3.2, 25.3.3, 26.1.1 26.1.2 and 26.1.6, and 27).

I am independent of Torex Gold Resources, Inc. as independence is described by Section 1.5 of NI 43-101.

I have been involved with the Morelos Project since 2009 during the preparation of a mineral resource estimate and subsequent completion of a technical report, and was a co-author on the following technical report:

Orbock, E., Long, S., Hertel, M., Kozak, A., 2009: Gleichen Resources Ltd. Morelos Gold Project, Guerrero, Mexico NI 43-101 Technical Report: effective date 06 October, 2009.

I have read NI 43–101 and the portions of the Technical Report, for which I am responsible, have been prepared in compliance with that Instrument.



As of the date of this certificate, to the best of my knowledge, information and belief, those section of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

"signed and sealed"

Mark P. Hertel, SME Registered Member

Date: 18 June 2012



IMPORTANT NOTICE

This report was prepared as a National Instrument 43-101 ("NI 43-101") Technical Report for Torex Gold Resources Inc. ("Torex") by AMEC E&C Services Inc. ("AMEC") and M3 Engineering & Technology Corporation ("M3"). The quality of information, conclusions, and estimates contained herein is consistent with the level of effort involved in AMEC's and M3's services, based on: i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions, and qualifications set forth in this report. This report is intended for use by Torex subject to the terms and conditions of its contract with AMEC and M3. This contract permits Torex to file this report as a Technical Report with Canadian Securities Regulatory Authorities pursuant to National Instrument 43-101, *Standards of Disclosure for Mineral Projects*. Except for the purposes legislated under provincial securities law, any other uses of this report by any third party is at that party's sole risk.





MORELOS GOLD PROJECT GUAJES AND EL LIMON OPEN PIT DEPOSITS UPDATED MINERAL RESOURCE STATEMENT FORM 43-101F1 TECHNICAL REPORT GUERRERO, MEXICO

TABLE OF CONTENTS

SEC	ΓΙΟΝ	PAGE
DAT	E AND	SIGNATURES PAGE I
TAB	LEOF	CONTENTS III
LIST	OF FIG	GURES AND ILLUSTRATIONS VIII
LIST	OF TA	BLESX
1	SUM	MARY
	1.1	PRINCIPAL OUTCOMES1
	1.2	OWNERSHIP2
	1.3	PROJECT SETTING, LOCATION, AND ACCESS2
	1.4	MINERAL TENURE
	1.5	SURFACE RIGHTS AND LAND USE
	1.6	ENVIRONMENTAL AND PERMITS2
	1.7	GEOLOGY AND MINERALIZATION
	1.8	HISTORY AND EXPLORATION
	1.9	DRILLING4
	1.10	SAMPLE PREPARATION AND ANALYSIS
	1.11	DATA VERIFICATION
	1.12	METALLURGY AND PROCESSING
	1.13	MINERAL RESOURCE ESTIMATE7
	1.14	INTERPRETATIONS AND CONCLUSIONS
	1.15	RECOMMENDATIONS10
2	INTR	RODUCTION11
	2.1	PURPOSE AND BASIS OF REPORT12
	2.2	TERMS AND DEFINITIONS12
	2.3	UNITS
	2.4	EFFECTIVE DATES13





3	RELI	IANCE ON OTHER EXPERTS	15				
4	PROPERTY LOCATION AND DESCRIPTION16						
	4.1	LOCATION	16				
	4.2	CURRENT TENURE1	17				
	4.3	Environmental and Social Risks	23				
		4.3.1 Discussion	23				
	4.4	PERMITTING CURRENT AND FUTURE	24				
		4.4.1Exploration4.4.2Permitting Required for Mine Development	24 24				
5	ACCI AND	ESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE PHYSIOGRAPHY	26				
6	HIST	ORY	28				
	6.1	WORK BY PREVIOUS OWNERS	28				
	6.2	TOREX RESOURCES (FORMERLY GLEICHEN RESOURCES) OWNERSHIP					
	6.3	WORK ON THE EL LIMON AND GUAJES RESOURCE					
7	GEOLOGICAL SETTING AND MINERALIZATION						
	7.1	7.1 R EGIONAL GEOLOGY					
	7.2	LOCAL GEOLOGY	32				
	7.3	PROJECT GEOLOGY	34				
		7.3.1 El Limon	35 41				
	7.4	MINERALIZATION	43				
		7.4.1 Skarn Types	43				
	7.5	COMMENTS ON SECTION 7	14				
8	DEPC	OSIT TYPES	45				
	8.1	COMMENTS ON SECTION 10	46				
9	EXPL	LORATION	47				
	9.1	9.1 SURVEY					
	9.2	GEOLOGIC MAPPING47					
	9.3	GEOCHEMICAL SAMPLING					
	9.4	ANALYSIS OF EXISTING GEOPHYSICAL DATA47					
	9.5	GEOTECHNICAL STUDIES	48				
	9.6	Other Target Areas	48				





10	DRIL	LING	5				
	10.1	DRILL CONTRACTORS	8				
	10.2	DRILL METHODS	9				
		10.2.1 RC Drilling	9 9 9				
	10.3	GEOLOGICAL LOGGING	0				
	10.4	Collar Surveys	1				
	10.5	DOWNHOLE SURVEYS6	1				
	10.6	RC AND CORE RECOVERY					
	10.7	DEPOSIT DRILLING					
	10.8	COMMENTS ON SECTION 10	3				
11	SAMI	PLE PREPARATION, ANALYSES AND SECURITY6	5				
	11.1	ANALYTICAL LABORATORIES					
	11.2	SAMPLE PREPARATION AND ANALYSIS					
	11.3	QUALITY ASSURANCE/QUALITY CONTROL PROGRAMS	7				
		11.3.1Teck Drilling Programs611.3.2Torex Drilling Campaigns6	7 9				
	11.4	DATABASES7	0				
	11.5	SAMPLE SECURITY	0				
	11.6	SAMPLE STORAGE7	1				
	11.7	COMMENTS ON SECTION 157	1				
12	DATA	VERIFICATION	2				
	12.1	AMEC 2005	2				
	12.2	M3 MEXICANA, 2008	2				
	12.3	AMEC 2009	3				
		12.3.1 Independent Verification of Mineralization	3				
	12.4	AMEC 2012	4				
	12.5	COMMENTS ON SECTION 12	5				
13	MINE	RAL PROCESSING AND METALLURGICAL TESTING7	6				
	13.1	General7	6				
	13.2	METALLURGICAL TESTING	7				
	13.3	METALLURGICAL STUDIES ON COMPOSITE SAMPLES	6				





	13.4	LEACHIN	G RECOVERY EVALUATION	88				
	13.5	SOLID-LIQUID SEPARATION TESTS						
14	MINI	MINERAL RESOURCE ESTIMATES						
	14.1	DATABAS	SE	97				
		14.1.1	Core Recovery	97				
		14.1.2	Density	98				
	14.2	Morelo	S GRADE CAPPING AND RESTRICTIONS	99				
	14.3	EL LIMO	N MINERAL RESOURCES	100				
		14.3.1	Geological Model	100				
		14.3.2	Lithological Assignments	101				
		14.3.3	Structural Domains	104				
		14.3.4	Mineralized Domains	105				
		14.3.5	Grade Capping and Restrictions	107				
		14.3.6	Composites	109				
		14.3.7	Exploratory Data Analysis (EDA)	110				
		14.3.8	Gold Variography.	113				
		14.3.9	Estimation of Gold and Silver Grades	115				
		14.3.10	Block Model Validation	116				
	14.4	GUAJES N	GUAJES MINERAL RESOURCES1					
		14.4.1	Composites	119				
		14.4.2	Exploratory Data Analysis, Domain Definition	120				
		14.4.3	Variography	122				
		14.4.4	Density	122				
		14.4.5	Guaies Grade Capping and Restrictions					
		14.4.6	Grade Estimation and Model Validation	122				
	14.5	RESOURC	TE CLASSIFICATION, MORELOS	126				
		1/15-1	Confidence Limits	126				
		14.3.1	Informed Drill Hole Crid Specing	120				
		14.3.2	Indicated Drill Hole Crid Spacing	127				
		14.5.5	Measured Drill Hole Grid Spacing	127				
	14.6	Assessm	ASSESSMENT OF REASONARI F PROSPECTS FOR ECONOMIC FYTRACTION 127					
	2.00	14 (1		140				
		14.0.1	Niming Costs	128				
		14.6.2	Pit Slope Angle Analysis	128				
		14.6.3	Processing, General and Administrative Costs	128				
	14.7	MINERAL RESOURCE STATEMENT						
	14.8	COMMENTS ON SECTION 1413						
15	MINI	ERAL RES	SERVE ESTIMATES	132				
16	MINI	ING METH	IODS	132				





17	REC	OVERY M	IETHODS				
18	PRO	JECT INF	RASTRUCTURE				
19	MAR	KET STU	DIES AND CONTRACTS				
20	ENVI COM	ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT					
21	CAPI	APITAL AND OPERATING COSTS					
22	ECO	ECONOMIC ANALYSIS					
23	ADJA	ACENT PF	ROPERTIES				
24	OTH	ER RELE	VANT DATA AND INFORMATION				
25	INTE	RPRETAT	FION AND CONCLUSIONS				
	25.1	INTERPR	ETATIONS AND CONCLUSIONS DEVELOPED BY M3				
	25.2	INTERPR	ETATIONS AND CONCLUSIONS DEVELOPED BY AMEC				
	25.3	R ISK ANI	OPPORTUNITY ASSESSMENT				
	25.4	RISKS ID	ENTIFIED BY M3				
		25.4.1	Risks Identified by AMEC				
	25.5	Opportu	UNITIES IDENTIFIED BY AMEC				
26	REC	RECOMMENDATIONS					
	26.1	26.1 WORK PROGRAM 1					
	26.2	26.1.1 26.1.2 26.1.3 26.1.4 26.1.5 26.1.6	Develop Infill and Step-Out Drill Program Resource Models Metallurgical Testwork Infrastructure Site Survey Exploration				
	26.2	PHASE 2	WORK PROGRAM				
		26.2.1 26.2.2	Land Tenure Water Resource Evaluation	141 141			
27	REFI	ERENCES		142			





LIST OF FIGURES AND ILLUSTRATIONS

FIGURE	DESCRIPTIONPAGE
Figure 4-1:	Site Location Map16
Figure 4-2:	Tenure Map19
Figure 4-3:	Local Communities and Infrastructure
Figure 5-1:	Project Physiography27
Figure 7-1:	Tectonic Map of South-Central Mexico
Figure 7-2:	Regional Geologic Map33
Figure 7-3:	Project Geological Map Showing Geology in El Limon and Guajes Areas34
Figure 7-4:	Deposit Location Map35
Figure 7-5:	Cross Section, El Limon. Drill Intercepts Not Orthogonal to the Dip Angle of the Skarn are Longer than True Thickness
Figure 7-6:	Long Section through NE Portion of El Limon. Drill Intercepts Not Orthogonal to the Dip of the Skarn are Longer than True Thickness
Figure 7-7:	Cross-Section, El Limon Sur Oxide. Drill Intercepts Not Orthogonal to the Dip of the Skarn are Longer than True Thickness
Figure 7-8:	Cross-Section, El Limon Norte Oxide. Drill Intercepts Not Orthogonal to the Dip of the Skarn are Longer than True Thickness
Figure 7-9:	Cross-Section, Guajes East. Drill Intercepts Not Orthogonal to the Dip of the Skarn are Longer than True Thickness
Figure 7-10	Cross-Section, Guajes West. Drill Intercepts Not Orthogonal to the Dip of the Skarn are Longer than True Thickness
Figure 9-1:	Morelos Revised Exploration Targets Shown on District-Scale Geologic Map48
Figure 9-2:	Morelos Exploration Targets on Magnetics
Figure 9-3:	Media Luna Exploration Drilling – June 2012
Figure 9-4:	Geological Sectional View Looking Northeast of Media Luna with Drill Holes53
Figure 10-1	: Drill Hole Location Map Within Property Boundary, Morelos Gold Project
Figure 10-2	: Drill Hole and Channel Sample Location Map, El Limon57
Figure 10-3	: Drill Hole Location Map, Guajes
Figure 10-4	: Example of Channel Sampling60
Figure 13-1	: Au Head Assay Grade vs. Indicated Extraction Overall
Figure 14-1:	: Plan View showing Mineralized Deposits
Figure 14-2	: Oblique View Looking North of El Limon Skarn Solids and showing Drill Hole Trace with 0.5 g/t Au Intercepts in Red101





Figure 14-3:	Typical Indicator Lithology Cross Section at the Southern End of the El Limon Deposit, showing Mine Blocks and Drill Holes, looking Northwest103
Figure 14-4:	Plan View of El Limon Structural Domains (Szones) with Drill Hole Collar Locations
Figure 14-5:	Typical Example of a Hard Boundary. Gold Contact Plot of Mineralized Skarn vs. Mineralized Hornfels Composites
Figure 14-6:	Typical Example of a Soft Boundary. Gold Contact Plot of Mineralized Skarn vs. Mineralized Retrograde Skarn Composites
Figure 14-7: C	Cross Section through Middle of El Limon Main showing Au Composite and Block Grades – Looking Northwest. Displayed Model Blocks are the Extent of the Mineral Resource Pit
Figure 14-8: E	El Limon Au Swath Plot showing Skarn Lithology Group in Skarn Domain118
Figure 14-9: H	IERCO Au Plot of Skarn Lithology from Szones 1, 2 and 4119
Figure 14-10:	Composite Probability Plot
Figure 14-11:	Guajes Deposit Au g/t Long Section124
Figure 14-12:	Guajes Deposit Ag g/t Long Section125
Figure 23-1: I	Location Map, Los Filos Operation





LIST OF TABLES

TABLE D	ESCRIPTION]	PAGE
Table 1-1: Morel	os Open Pit Mineral Resource Statement – Effective date 11 June 2012	1
Table 1-2: Morel	os Open Pit Mineral Resource Statement – Effective date 11 June 2012	8
Table 2-1: Dates	of Site Visits and Areas of Responsibility	11
Table 2-2: Terms	and Definitions	12
Table 4-1: Miner	al Tenure Summary Table	18
Table 4-2: 2012	Duty Summary Table	21
Table 9-1: M	edia Luna Drill Hole Collar Coordinates and Surveys	49
Table 9-2: Torex	Gold Resources Inc. Drilling Results – Media Luna Target (13-Jun-12)	50
Table 10-1: Drill	Hole Summary Table	55
Table 10-2: Dow	nhole Survey Instrumentation used by Year	61
Table 10-3: Selec	cted Drill Hole Intercept Summary – El Limon, Guajes East and West Dep	osits63
Table 12-1: AMI	EC's Check on the Presence of Gold Mineralization	74
Table 13-1: Deve	elopment Testwork Composite Samples	79
Table 13-2: Bond	Ball Mill Work Indices	80
Table 13-3: Gold	Extraction Results	81
Table 13-4: Com	posite Sample Head Assays	82
Table 13-5: Leac	h Test Results	83
Table 13-6: Gold	Extraction Results	84
Table 13-7: SMC	C Test Results	86
Table 13-8: MET	CON Test Results	88
Table 13-9: Mine	eralized Material Type Distribution	90
Table 13-10: We	ighted Average Extraction at Mine Plan Gold Grades	90
Table 13-11: Per	cent Silver Extraction by Mineralized Material Type	91
Table 13-12: Sur	nmary of Recommended Thickening Design Parameters	94
Table 13-13: Hor	izontal Recess Plate Filter Press Sizing	96
Table 14-1: Mean	n Specific Gravity Assigned to Morelos Block Model by Lithology Type	99
Table 14-2: Prim	ary El Limon Lithological Codes and Total Meters	100
Table 14-3: El Li	mon Mineralized Indicator Search Strategies for Szones 1, 2, & 4	106
Table 14-4: El Li	mon Mineralized Indicator Search Strategies for Szone 3	106





Table 14-5: Mineralized Indicator Variogram Parameters for the Szone 1, 2, & 4107
Table 14-6: Mineralized Indicator Variogram Parameters for Szone 3107
Table 14-7: El Limon Outlier Restriction/Capping Plan for Szones 1, 2, and 4 Inside Skarn Domain
Table 14-8: El Limon Capping Plan for Szone 1, 2, and 4 Outside of Skarn Domain108
Table 14-9: El Limon Capping Plan for Szone 3 Inside of Skarn Domain 109
Table 14-10: El Limon Capping Plan for Szone 3 Outside of Skarn Domain109
Table 14-11: El Limon Descriptive Statistics for Gold Composites 110
Table 14-12: Gold Model 3-D Composite Search Strategies for Szone 1, 2, & 4114
Table 14-13: Gold Model 3-D Composite Search Strategies for Szone 3114
Table 14-14: Gold Variography Parameters for Szone 1, 2, & 4
Table 14-15: Gold Variography Parameters for Szone 3115
Table 14-16: El Limon Global Bias Check by Lithology Group116
Table 14-17: Au Composite Estimation Domain Summary Statistics
Table 14-18: Guajes East and West Outlier Restriction/Capping Plan for Inside and Outside of Skarn Domain 122
Table 14-19: Guajes Gold Estimation Parameters 123
Table 14-20: Global Bias Check for Gold Interpolation Using Measured and Indicated Blocks from Kriged and NN Models 126
Table 14-21: Global Bias Check for Silver Interpolation Using Measured and Indicated Blocks from Kriged and NN Models 126
Table 14-22: Parameters Used to Establish Open Pit Mineral Resource Cut-off Grade129
Table 14-23: Morelos Open Pit Mineral Resource Statement – Effective Date 4 May 2012129
Table 14-24: Morelos Open Pit Mineral Resource Statement – Effective Date 11 June 2012130





1 SUMMARY

M3 Engineering & Technology Corporation ("M3"), as well as AMEC Engineering & Construction Services Inc. ("AMEC"), were commissioned by Torex Gold Resources Inc. ("Torex") to jointly provide a technical report for the Morelos Gold Project ("the Project") located in Guerrero, Mexico. The Project comprises the Guajes and El Limon gold deposits. This report, entitled, "Morelos Gold Project, Guajes and El Limon Open Pit Deposits, Updated Mineral Resource Statement, Form 43-101F1 Technical Report, Guerrero, Mexico" (the "Technical Report") is written to support the mineral resource estimate amenable to open pit mining methods declared 4 May 2012. All geological information in this report is inclusive up to and including 15 March 2012. See Section 2.4 for a listing of effective dates. Unless noted otherwise, the currency used in the Technical Report is U.S. dollars.

1.1 PRINCIPAL OUTCOMES

Mineral Resources for the Project are summarized in Table 1-1.

Deposit	Resource Category	Tonnes (Mt)	Gold Grade (g/t)	Gold Ounces (000's)	Silver Grade (g/t)	Silver Ounces (000's)
	Measured	6.1	3.29	641	4.08	795
El Limon	Indicated	26.0	2.97	2,477	6.34	5,292
	Sub Total M&I	32.1	3.03	3,117	5.91	6,086
	Measured	4.3	3.11	431	3.86	535
Guajes	Indicated	17.4	2.25	1,258	3.11	1,736
	Sub-total M&I	21.7	2.42	1,689	3.26	2,270
	Total M&I	53.7	2.78	4,806	4.84	8,357
El Limon	Inferred	8.3	2.0	542	4.7	1,250
Guajes	Inferred	2.5	1.0	77	1.7	135
	Total Inferred	10.7	1.8	619	4.0	1,385

$1 a M C 1^{-1}$, MUCHOS Open I I MINICIAL Resource Statement – Effective date 11 June 2012
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Notes to accompany Mineral Resource table:

1. Mineral Resources are not Mineral Reserves until they have demonstrated economic viability

2. Mineral Resources are reported above a 0.5 g/t Au cut-off grade

3. Mineral Resources are reported as undiluted; gold grades are contained grades

- 4. Mineral Resources are reported within a conceptual open pit shell
- 5. Mineral Resources were developed in accordance with CIM (2010) guidelines

6. Mineral Resources are reported using a long-term gold price of \$1,400/oz and silver price of \$26/oz

7. Mining costs used are estimated at \$1.65 per tonne and processing costs are estimated at \$11.51 per tonne. General and administrative costs were estimated at \$0.98 per tonne

8. Gold recoveries are dependent on grade and rock type and have a weighted average recovery of 87.33%.

9. Silver metallurgical recoveries by rock type show a weighted average of 33%.

10. Assumed pit slope angles range from 32° to 51°

11. Totals may be different due to rounding of numbers.

12. QP for El Limon is Edward J. C. Orbock III, RM SME and QP for Guajes is Mark Hertel, RM SME





1.2 OWNERSHIP

The project area (Reducción Morelos Norte claim block) is wholly owned by Torex through its Mexican subsidiary, Minera Media Luna, S.A. de C.V. ("MML"). Through an agreement dated 6 August 2009, Gleichen Resources Ltd. ("Gleichen") acquired 78.8% of the project from Teck Resources Ltd. ("Teck") via the acquisition of 100% of Oroteck Mexico S.A. de C.V. ("Oroteck") from Teck's subsidiaries Teck Metals Ltd. and Teck Exploration Ltd. for a purchase price of \$150 M and a 4.9% stake in Gleichen. Oroteck was the holding entity for Teck's 78.8% interest in the joint venture company MML in Mexico. The remaining 21.2% interest in MML was purchased from Goldcorp Inc. ("Goldcorp") by Gleichen on 24 February 2010. On 4 May 2010, Gleichen changed its corporate name to Torex Gold Resources, Inc.

MML is the registered holder of a 100% interest in the Morelos Gold Project in the State of Guerrero, Mexico. MML and Torex are used interchangeably.

1.3 **PROJECT SETTING, LOCATION, AND ACCESS**

The project is located in Guerrero State, Mexico, approximately 200 km south–southwest of Mexico City, 60 km southwest of Iguala and 18 km northwest of Mezcala. The closest village, Nuevo Balsas, is a small agricultural-based community with a population of approximately 1,000, and is accessed by narrow, paved highway from Iguala. The deposits are accessed from Nuevo Balsas via a 5 km single-lane gravel road.

The project is located near established power and road infrastructure at Mezcala and near centers of supply for materials and workers at Chilpancingo, Iguala and Cuernavaca. The nearest port is Acapulco, Mexico.

1.4 MINERAL TENURE

The project consists of seven mineral concessions, covering a total area of approximately 29,006 ha. All concessions were granted for a duration of 50 years. All licenses are held in the name of MML.

1.5 SURFACE RIGHTS AND LAND USE

At the effective date of this report, Torex signed long-term lease agreements on approximately 1,780 hectares of land covering the Morelos deposit. In addition to these long-term lease agreements, Torex has an access agreement in place to facilitate exploration outside of the known resource area. See Section 4 of this report.

1.6 ENVIRONMENTAL AND PERMITS

During 2011, permits for exploration work were granted under the General Law for Ecological Equilibrium and the Protection of the Environment and the General Law of Sustainable Forestry Development. Environmental impact assessments and change of land uses applications were submitted and accepted by Mexican regulatory authorities. Permission to drill water wells has been granted by the Mexican national water commission ("CONAGUA") and the wells have





been completed. At the time of this report there are no known environmental or social risks that have a material likelihood of impacting the ability to extract the identified resource. See Section 4.3 of this report.

1.7 GEOLOGY AND MINERALIZATION

The project is situated in the Nukay district of the Morelos-Guerrero Basin of southern Mexico.

The deposits are inside the Mesozoic carbonate-rich Morelos Platform, which has, in the project area, been intruded by Palaeocene granodiorite stocks. Sedimentary rocks within the Morelos Platform include basal crystalline limestones and dolomites of the Morelos Formation, silty limestones and sandstones of the Cuautla Formation, and upper platformal to flysch-like successions of intercalated sandstones, siltstones, and lesser shales of the Mezcala Formation. An intrusive stock complex, oriented northwest–southeast, intrudes the carbonate rocks. The dominant intrusive composition is granodiorite, although some quartz monzonites, monzonites, and diorites have been identified, in addition to minor, late andesitic dykes. Skarn-hosted gold mineralization is developed along the contacts of the intrusive rocks and the enclosing carbonate-rich sedimentary rocks.

The skarn zone at the El Limon deposit occurs at the stratigraphic level of the Cuautla Formation where marble is in contact with hornfelsed sedimentary rocks of the Mezcala Formation. The contact of the intrusive with the sedimentary rocks at El Limon, although irregular, is generally quite steep and almost perpendicular to bedding. Significant gold mineralization at El Limon is generally associated with the skarn, preferentially occurring in pyroxene-rich exoskarn but also hosted in garnet-rich endoskarn. The El Limon oxide zone occurs approximately 1 km south of the main El Limon skarn deposit and appears to be an oxidized remnant of skarn emplaced at the contact between the intrusive and the host rocks represented by the marble and hornfels.

The Guajes skarn zone is developed in the same lithologies on the opposite side of the same intrusive present at El Limon. Marble (Morelos Formation) forms the footwall and a hornfels (Mezcala Formation) forms the hanging wall. At the Guajes deposits the intrusion underlies the sedimentary rocks and the contact dips at about 30° to the west, sub-parallel to bedding. There are also a number of shallow-dipping intrusive sills at Guajes that crosscut the skarn and although they are occasionally mineralized at or near their contacts, for the most part, the sills are non-mineralized.

Gold occurs most often with early sulphide mineralization but also with late carbonate, quartz, and adularia. Native gold most commonly occurs in close association with bismuth and bismuth tellurides but also occurs with chalcopyrite and as inclusions in arsenopyrite. The dominant sulphides are pyrrhotite and pyrite with lesser but locally abundant amounts of chalcopyrite and arsenopyrite occurring in veinlets and open-space fillings.

In the opinion of the QP who is responsible for Section 7 of the report, the mineralization style and setting of the deposits is sufficiently well understood to support Mineral Resource estimation.





1.8 HISTORY AND EXPLORATION

Recent exploration efforts began in 1998 when MML acquired the property. In the first year of exploration, work comprised data review, regional geological mapping, rock chip collection and silt sampling. During 1999, additional regional-scale reconnaissance work was undertaken, consisting of additional geochemical sampling and mapping. By 2000, the El Limon and Media Luna oxide mineralization had been discovered. A trenching program was followed up by reverse circulation (RC) drilling, totaling 1,888 m.

During 2001 and 2002, drilling and testing continued, comprising 11,088 m in 2001, and 4,265 m in 2002. A total of 20 line kilometers of IP survey were completed, outlining a number of highs. Mineralization characterization studies to support metallurgical testwork were initiated. During 2003, a total of 3,781 m of core drilling focused on El Limon and Guajes West areas, and the El Limon Sur oxide zone was discovered.

Shallower mineralization in the vicinity of the Guajes West skarn, the Limon Sur oxide zone and the Azcala, La Amarilla and El Naranjo targets were the target of some 10,111 m of core drilling in 2004. Additional metallurgical testwork was undertaken on the drill core, and the mineral resource estimate was updated.

A total of 22,580 m of drilling was completed in 2006 over the El Limon East, Los Mangos, and La Amarilla areas. Detailed mapping and rock and soil sampling continued at the El Querenque and Azcala areas, with encouraging results from soil sampling obtained at El Querenque. In 2007, drilling comprising 33,603 m was undertaken at the El Limon East, Los Mangos, and La Amarilla areas. Mineral resource estimates were again updated. Additional drilling in 2008 (10,544 m) was undertaken at the Guajes and Guajes West zones, Los Mangos and El Querenque.

For planning purposes, internal studies to the MML joint venture evaluated the merits of mining the El Limon, Guajes East and Guajes West deposits either by open pit methods only, or by a combination of underground and open pit methods, and processing the mineralization through a conventional gold cyanidation plant. This work was undertaken during 2007/2008 and was completed by Teck. Since acquiring the Morelos Project, Torex has undertaken and continues to carry out work on the project. To date, Torex has focused on two areas; 1) work on the area where mineral resources have been estimated, and 2) exploration beyond this area. Work on the area where mineral resources are estimated is focused on the completion of engineering and geological studies with the goal of completing a Feasibility study on the two deposits. As of the date of this report, engineering work is still underway.

1.9 DRILLING

Drilling used within this Technical Report was completed between 1997 and 2012. Drilling under Torex was undertaken by a number of contractors, including Major Drilling Group International Inc., G4 Drilling, Ltd., Boart Longyear, Moles and Colima. AMEC has no information on the type of drill rigs employed. A database cutoff date of 6 April 2012 resulted in





holes up to TMP-1430 being included, for a total of 1,202 drill holes (197,980 m) and 43 channels (4,162 m). Drill data is summarized in Section 10 of this report.

1.10 SAMPLE PREPARATION AND ANALYSIS

Sample preparation and analytical laboratories used during the exploration programs on the Project include the independent laboratories ALS Chemex and Laboratorio Geologico Minero ("Lacme", an ACME subsidiary), and Teck's Global Discovery Laboratory ("GDL"). During the 2000–2001 programs, ALS Chemex analyzed the resulting samples. The QA/QC program for the first two drill campaigns relied on the internal quality control of ALS Chemex.

Starting in 2002, an external QA/QC program was initiated by Teck personnel. This program consisted of inserting two standards and four blanks in the project sample stream with each drill hole submittal. In 2003, the program changed to include 5% blanks, 5% field duplicates, and 10% certified reference materials ("CRMs"). Because of the good results from the 2003 program, the number of insertions in the 2004 QA/QC program was reduced to 2% blanks, 2% field duplicates and 5% CRMs.

Drill and trench samples from the 2002 through 2004 programs were sent to the Lacme sample preparation facility and then to GDL for assay. These results were used to select a sub-population of samples for gold fire assay.

At the beginning of the 2006 program, a sample preparation laboratory was established in Nuevo Balsas, and run by an independent contractor. The Nuevo Balsas preparation laboratory was also used for the 2006–2008 campaigns. Samples were prepared and then shipped to GDL where the analytical methodology was the same as that used for the 2002–2004 programs.

The 2006–2008 QA/QC programs consisted of the insertion of 5% CRMs, 5% blanks and 5% field (core) duplicates. The preparation laboratory inserted 5% coarse crush duplicates and laboratory replicates were used as pulp duplicates.

From 2010 to 2012, Torex has maintained the exploration data in a series of Microsoft Excel spreadsheets, and these data were periodically loaded into a Microsoft Access database. During AMEC's audit work in 2011, a high incidence of data-entry errors was observed in the collar location and assay records. In 2012, Torex systematically corrected the collar and assay data and implemented a new system of data-entry to ensure that these errors are no longer introduced.

1.11 DATA VERIFICATION

During an audit of the project to support mineral resource estimation in 2005, AMEC reviewed the geological database and QA/QC for the project. AMEC reviewed core sampling and logging procedures and trench and road-cut sampling procedures at site and considered that the practices employed by Teck conformed to industry-standard practices.

In AMEC's opinion, the digital database in 2005 was representative of the available project exploration data and was sufficiently free from error to support mineral resource estimation. AMEC reviewed logging and sampling practices and visually inspected mineralized intervals. In





general, AMEC found logging practices to meet industry standards, and that drill logs were well collected and representative of the core inspected.

AMEC reviewed analytical accuracy data from the quality control programs and found that the ALS Chemex and GDL gold assays are of acceptable accuracy.

At AMEC's recommendation, Teck submitted some of the 2000–2001 drill samples for check assays to Acme Laboratories in Vancouver. With the exception of three samples, the checks verified the original sample values.

AMEC reviewed analytical accuracy data from the quality control programs and found that the ALS Chemex and GDL gold assays are of acceptable accuracy to support mineral resource estimation.

AMEC was provided with a Microsoft Access® database containing all drilling information on the Morelos property. AMEC found the drill assay data acceptable to use in mineral resource estimation. After review, and in AMEC's opinion, the digital database is representative of the available project exploration data and is sufficiently free from significant errors so as to support mineral resource estimation.

AMEC verified samples from Guajes and El Limon to confirm the presence of gold mineralization. Assay values confirmed the presence of gold mineralization at the project.

In April 2012, AMEC performed an audit of the Morelos project information added to the database since the previous AMEC audit in 2009. The purpose of the audit was to ensure that the drilling information was accurately entered into the database and that the data are acceptably accurate to support resource estimation. AMEC's audit of the rebuilt database found very few data-entry errors and therefore finds the database to accurately represent the drilling information and be acceptable to support mineral resource estimation.

1.12 METALLURGY AND PROCESSING

Metallurgical test programs have been completed by independent commercial metallurgical laboratories. Drill core from exploration drilling was sampled and used for metallurgical testing. The selection of drill core has been made with the usual standard of care so that the samples submitted for testing represent all the mineralized rock types within the mineralized area.

The results of the test work indicate that there are not any deleterious elements present in sufficient quantity that would have a significant impact on processing the mineralized material. The test results indicate that gold associated with sulfides and very fine sized gold particles associated with silica gangue particles are considered to be the primary cause of lower gold extraction rates in some of the mineralized material.

The results of the test work indicate that the mineralized material will respond to direct agitated cyanide leaching technology to extract gold. The tests results provide the criteria to be used to design the process facility including crushing, grinding, leaching and carbon in pulp, and slurry thickening and filtration process circuits. Overall gold recovery is predicted to be 87%.





1.13 MINERAL RESOURCE ESTIMATE

The Project mineral resource estimates were prepared using 3-D models in the commercial mine planning software MineSight® with reference to the Canadian Institute of Mining Metallurgy and Petroleum (CIM) Definition Standards (2010) and CIM Best Practice Guidelines (2003) for preparing mineral resource and mineral reserve estimates.

The mineral resource estimate was interpolated the assumption that the likely mining method would be open pit mining. A mine block size (selective mining unit or SMU) of 7 m x 7 m x 7 m was selected. A lithology model was created using a combination of deterministic and probabilistic modeling methods using Ordinary Kriging. Gold and silver grades were interpolated into mine blocks based on lithology and mineralization domains.

Mineral resources were constrained inside a \$1,400 per ounce gold and \$26 per ounce silver open pit shell constructed by AMEC using the commercial mine programming software NPVS Datamine®.

The El Limon mineral resource estimate and lithology model was prepared by Edward J. C. Orbock III, RM SME of AMEC. The Guajes mineral resource estimate and lithology model was prepared by Mark Hertel, RM SME., also of AMEC.

Mineral Resources were reported on 4 May 2012 for the Project, based on open pit mining methods. However, after the public disclosure of Mineral Resources on 4 May 2012, AMEC discovered incorrect SG assignments to the El Limon breccias and incorrect rotations of search ellipse for Pass 2 and Pass 3 for El Limon Szone 3 gold and silver grade interpolation. Correction of these two minor errors will result in a slight decrease in the reported Measured and Indicated Resource by approximately 80,000 (-0.15%), tonnes 18,000 (-0.37%) gold ounces and 22,000 (-0.26%) silver ounces. Inferred Resources will see no change in tonnes, a loss of approximately 1,000 (-0.17%) gold ounces and 5,000 (-0.37%) silver ounces. This error has an insignificant effect on the Mineral Resource estimate and corrections have been made to the block model to be used in the upcoming feasibility study. The adjusted results are shown in Table 1-2, referenced from Table 14-24.





Table 1-2: Morelos Open Pit Mineral Resource Statement	t – Effective date 11	June 2012
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Deposit	Resource Category	Tonnes (Mt)	Gold Grade (g/t)	Gold Ounces (000's)	Silver Grade (g/t)	Silver Ounces (000's)
El Limon	Measured	6.1	3.29	641	4.08	795
	Indicated	26.0	2.97	2,477	6.34	5,292
	Sub Total M&I	32.1	3.03	3,117	5.91	6,086
Guajes	Measured	4.3	3.11	431	3.86	535
	Indicated	17.4	2.25	1,258	3.11	1,736
	Sub-total M&I	21.7	2.42	1,689	3.26	2,270
	Total M&I	53.7	2.78	4,806	4.84	8,357
El Limon	Inferred	8.3	2.0	542	4.7	1,250
Guajes	Inferred	2.5	1.0	77	1.7	135
	Total Inferred	10.7	1.8	619	4.0	1,385

Notes to accompany Mineral Resource table

1. Mineral Resources are not Mineral Reserves until they have demonstrated economic viability

2. Mineral Resources are reported above a 0.5 g/t Au cut-off grade

3. Mineral Resources are reported as undiluted; gold grades are contained grades

4. Mineral Resources are reported within a conceptual open pit shell

5. Mineral Resources were developed in accordance with CIM (2010) guidelines

6. Mineral Resources are reported using a long-term gold price of \$1,400/oz and silver price of \$26/oz

7. Mining costs used are estimated at \$1.65 per tonne and processing costs are estimated at \$11.51 per tonne. General and administrative costs were estimated at \$0.98 per tonne

8. Gold recoveries are dependent on grade and rock type and have a weighted average recovery of 87.33%.

9. Silver metallurgical recoveries by rock type show a weighted average of 33%.

10. Assumed pit slope angles range from 32° to 51°

11. Totals may be different due to rounding of numbers.

12. QP for El Limon is Edward J. C. Orbock III, RM SME and QP for Guajes is Mark Hertel, RM SME

1.14 INTERPRETATIONS AND CONCLUSIONS

The following interpretations and conclusions are appropriate to the project.

- Torex has agreements for long term surface land tenure for the property but must complete registration with the Mexican regulatory authorities.
- The project metallurgical testing program indicates that conventional gold processing can be used for this project. The metallurgical testing done to date is sufficient for the current stage of the project.
- The project geology and mineralization is sufficiently well established and understood to support mineral resource estimation.
- Work programs included geological mapping, geophysical surveys, geochemical sampling, channel sampling, age dating, petrography, mineralogical studies, and Quick bird imagery, and drilling.
- Completed exploration programs were appropriate to the mineralization style.





- Drill data collected by Torex and MML meets industry standards for exploration of gold and silver deposits.
- Sample data collected adequately reflect deposit dimensions, true widths of mineralization, and the style of the deposits.
- AMEC has reviewed the economic parameters used in the Mineral Resource and is of the opinion that they are reasonable.
- There is sufficient area within the Project to host an open pit mining operation including any proposed open pit, waste dumps, and leach pads.
- The Project retains significant exploration potential, and additional work is planned.

M3 and AMEC identified major risks and opportunities associated with the project development:

- Mineral Resources in Section 14 are reported as undiluted. Depending on mining rate and equipment selection, the amount of dilution could be substantial. This in turn may have a significant impact on the amount of tonnes milled and head grades sent to the mill in any projected mining scenario.
- The deposits are located in rugged terrain. Developing access routes to the mining operations will be challenging, and will require significant time prior to production to establish.
- Completion of land tenure will be a key requirement for further advancement of the project.
- The project is located in an economically-depressed area and the community of Nuevo Balsas was characterized as fractured and fragile. Community engagement and a process of communication with the communities in the area of influence of the project will be critical to project development.

Opportunities for this project include:

- There is potential for upgrades in mineral resource confidence categories when infill drilling is completed at Guajes and El Limon.
- The current project mineral resources are estimated for two deposits. However, exploration programs identified a further six prospects, and in addition the project has considerable remaining grass-roots gold exploration potential.

More detailed interpretations and conclusions can be found in Section 25 of this report.





1.15 RECOMMENDATIONS

M3 and AMEC recommend that Torex proceed with the following programs. The following Work Program 1 was developed by AMEC for this Technical Report.

- Program 1 is currently designed to upgrade Inferred Resources to a higher classification. Program 1 includes:
 - Develop an Infill and Step-Out Drill Program
 - Review and Refine Resource Models
 - Complete a Site Survey
 - o Conduct Additional Exploration
- Program 2 comprises a feasibility study and is independent of Program 1 results. AMEC is of the opinion that sufficient Mineral Resources have been established to warrant advancement to a Feasibility Study.

In addition, M3 recommends that Torex continue to advance a surface land acquisition program. Also, Torex should continue their current water resource evaluation in the area of the project. As of this study's publication, Torex is awaiting final documentation of the water concession from the Mexican National Water Commission (Comisión Nacional de Agua, or "CONAGUA").





2 INTRODUCTION

M3 Engineering & Technology Corporation ("M3") and AMEC Engineering & Construction Services Inc. ("AMEC") were commissioned in 2011 by Torex Gold Resources, Inc. ("Torex") to provide an independent technical report on an updated mineral resource estimate for the Morelos Gold Project.

Torex Gold Resources, Inc. 145 King St. West, Suite 1502 Toronto, ON Canada M5H 1J8 Tel: (647) 260 1500 Fax: (416) 640 2011

This report has been prepared in accordance with the guidelines provided in National Instrument 43-101, Standards of Disclosure for Mineral Projects ("NI 43-101") dated 24 June 2011 (became effective 30 June 2011). The effective date of the mineral resource is 11 June 2012. The effective date of the report is 13 June 2012. The issue date of this report is 18 June 2012. The Qualified Persons responsible for this report are:

- Daniel H. Neff, P.E., Principal Author M3 Engineering & Technology Corporation
- Thomas L. Drielick, P.E., Principal Metallurgist M3 Engineering & Technology Corporation
- Edward J.C. Orbock III, SME Registered Member, Principal Geologist AMEC Engineering & Construction Services Inc.
- Mark Hertel, SME Registered Member, Principal Geologist AMEC Engineering & Construction Services Inc.

Site visits and areas of responsibility are summarized in Table 2-1 for the QPs.

QP Name	Site Visit Date	Area of Responsibility		
Daniel H. Neff	2 to 4 April 2012	Sections 1, 2, 3, 4, 5, 24, 25, 26, and 27.		
Thomas L. Drielick	No site visit	Sections 1.12, 13 and those portions of the conclusions, references, and recommendations that pertain to that section. No site visit is required as Thomas is signed for only the metallurgical portion of the report.		
Edward J.C. Orbock III	September 1 to 3, 2009 March 1 to 3, 2011	Sections 6, 7, 8, 9, 10, 11, 12, 14.1 to 14.3 and 14.5 to 14.8, 23, 25.2, 25.3.2, 25.3.3, 26.1.1, 26.1.2, 26.1.6, and 27.		
Mark Hertel	1 to 3 March 2011	Section 14.4, 14.7, 14.8, 25.2, 25.3.2, 25.3.3, 26.1.1, 26.1.2 and 26.1.6, and 27.		

Table 2-1: Dates of Site Visits and Areas of Responsibility





2.1 PURPOSE AND BASIS OF REPORT

This NI 43-101 Technical Report documents the results of an updated mineral resource estimate. The information presented, opinions, conclusions, and estimates made are based on the following information:

- Information provided by Torex and their contractors;
- Assumptions, conditions, and qualifications as set forth in the report; and
- Data, reports, and opinions from third-party entities and previous property owners.

2.2 TERMS AND DEFINITIONS

Important terms used in this report are presented in Table 2-2. These are not all of the terms presented in the Technical Report, but include major terms that may not have been defined elsewhere.

Full Name	Abbreviation
Silver	Ag
Gold	Au
Carbon in Column	CIC
Carbon in Pulp	CIP
Certified Reference Material	CRM
Copper	Cu
Cutoff Grade	CoG
Feasibility Study	FS
Global Discovery Laboratory	GDL
Global Positioning System	GPS
grams per tonne	g/t
hectare	ha
Iron	Fe
kilogram	kg
kilometer	km
Meter	m
Mean Sea Level	MSL
Mexican National Water Commission (Comisión Nacional de Agua)	CONAGUA
M3 Engineering and Technology Corp.	M3
Miranda Mining Development Corporation	MMC

Table 2-2: Terms and Definitions





Full Name	Abbreviation
Minera Media Luna S.A. de C.V.	MML
metric tonnes per year	mt/a
Minera Nukay	Nukay
ordinary kriging	ОК
potentially acid-generating	PAG
Pre-Feasibility study	PFS
parts per billion	ppb
Quality Assurance and Quality Control	QA/QC
Qualified Person	QP
Reverse Circulation	RC
Rock Quality Designations	RQD
Secretary of the Environment, Natural Resources and Fisheries	SEMARNAT
Torex Gold Resources Inc.	Torex
Universal Transverse Mercator	UTM
Zinc	Zn

2.3 UNITS

This report uses metric measurements. The currency used in the report is U.S. dollars. The local currency of Mexico is the Mexican peso.

2.4 EFFECTIVE DATES

The effective date of the Technical Report is 13 June 2012, which corresponds to the date of the last supply of information on the ongoing Media Luna exploration drill campaign. The Media Luna information does not change the effective date of the Mineral Resource. There were no material changes to the information on the project between the effective date and the signature and issue date of the report.

There are a number of effective dates for information in the Technical Report:

- Date of last drill hole completed to be included in resource estimation is 14 March 2012.
- Date of last supply of exploration drill hole information is 13 June 2012. The exploration program is ongoing.
- Database assay close-off date is 6 April 2012.





- Date of the last supply of mining related data is 6 April 2012.
- Date of the Guajes Mineral Resource estimate is 11 June 2012.
- Date of the El Limon Mineral Resource estimate is 11 June 2012.
- Date of land tenure legal opinion is 15 June 2012
- Date of issue for this report is 18 June 2012.





3 RELIANCE ON OTHER EXPERTS

M3 relied upon contributions from other consultants as well as Torex. M3 has reviewed the work of the other contributors and finds this work has been performed to normal and acceptable industry and professional standards. M3 is not aware of any reason why the information provided by these contributors cannot be relied upon. An independent verification of land title and mineral tenure was not performed. M3 has not verified the legality of any underlying agreement(s) that may exist concerning the license or other agreement(s) between third parties. Likewise, Torex has provided data for and verified land ownership and claim (mineral) ownership.

- a) Edward Orbock and Mark Hertel, co-authors of this Technical Report state that they are qualified persons for those areas as identified in the respective "Certificate of Qualified Person" attached to this Technical Report. The co-authors have relied upon and disclaim responsibility for information derived from expert reports pertaining to mineral rights, surface rights, and permitting issues.
- b) Edward Orbock and Mark Hertel have not reviewed the mineral tenure, nor independently verified the legal status or ownership of the Project area or underlying property agreements. AMEC has fully relied upon independent legal experts for this information through the following documents:
 - Galicia y Robles S.C., 2009: Morelos Project Mineral Tenure, Permitting and Property Agreements Information: unpublished legal opinion letter prepared by Galicia y Robles S.C. for Gleichen Resources Ltd, 17 September, 2009.
 - Sánchez-Mejorada, Velasco y Ribé Abogados, 2012. Mining rights title report and opinion on the concessions held by Minera Media Luna, S.A. de C.V.: unpublished legal opinion letter prepared by Sánchez-Mejorada, Velasco y Ribé Abogados for Torex Gold Resources Ltd., 15 June 2012.





4 **PROPERTY LOCATION AND DESCRIPTION**

4.1 LOCATION

The Morelos Gold Project is located in Guerrero State, Mexico, approximately 200 km southsouthwest of Mexico City. The location of the project in relation to the state of Guerrero, as well as its location within Mexico, can be seen in Figure 4-1. The site can be characterized by moderately steep terrain with the Rio Balsas as the primary geographical feature.

a) The project consists of two gold-enriched skarn deposits, El Limon, and Guajes. The area also includes a number of other smaller prospects.



b) The approximate project centroid is 18.0075 N, 99.7443 W.

Figure 4-1: Site Location Map

Note: Figure dated July 2008, Figure courtesy of Torex.

c) The two deposits covered in this report (Guajes and El Limon) are within the Reducción Morelos Norte. The following section describes the creation of this concession along with the acquisition of this concession by Torex. The 47,600 ha Morelos Mineral Reserve was created in 1983. Mining operations were conducted by Minera Nukay ("Nukay") during the late 1980s, from underground sources at the Nukay mine, outside the Project area. Miranda Mining Development Corporation ("MMC") took over Nukay, and in 1993, a joint venture ("JV") commenced with Teck exploring for additional gold deposits. In 1995, the Mexican Government divided the Morelos Mineral Reserve into a northern and southern portion, allocating the portions by lottery.




The Morelos claim block (Reducción Morelos Norte) was acquired by the MMC–Teck JV entity, MML, at public auction in late 1998.

A transfer of mining assets agreement, dated 14 September 1999, was entered into by Minera Babeque, S.A. de C.V. ("Babeque") and MML, which transferred the mining concession titles El Anono, El Cristo, San Francisco, El Palmar and Apaxtla 2 from Babeque to MML for a consideration of \$5 M pesos. The agreement gave MML exclusive rights to the mining concessions. A royalty payment of 2.5% of the gross income derived from any production from the mining concessions was payable to Minera Nafta, S.A. de C.V.

MML was held 60% by Teck, and 40% by MMC. In 2003, Wheaton River Minerals acquired MMC, and was in turn, in 2005, acquired by Goldcorp Inc.

By 2009, the Project was held 78.8% by Teck, and 21.2% by Goldcorp.

On November 16, 2009 Gleichen (previous name of Torex) acquired Teck's 78.8% share of the property via an agreement dated 6 August 2009. This purchase was completed by Torex's purchase of 100% of Oroteck from Teck's subsidiaries Teck Metals Ltd. and Teck Exploration Ltd., for a purchase price of US \$150 M and a 4.9% stake in Torex. Oroteck was the holding entity for Teck's 78.8% interest in MML in Mexico. Upon purchase of Oroteck by Torex, the company's name was changed to TGRXM S.A. de C.V. ("TGRXM"). TGRXM is a wholly-owned subsidiary of Torex.

On 24 February 2010, Torex, through TGRXM, completed the acquisition of all of the shares of MML, held by Desarrollos Mineros San Luis, S.A. de C.V. ("DMSL"), a wholly-owned subsidiary of Goldcorp. This holding represented the remaining 21.2% of the issued and outstanding shares of MML. The Acquisition was completed through the exercise of a right of first refusal held by TGRXM to acquire 7.2033% Series A shares and 14.0% Series G shares in the capital of MML. As a result of the Acquisition, Torex now holds 100% of the issued and outstanding shares of MML, through its wholly-owned subsidiary TGRXM. MML is the registered holder of a 100% interest in the Project in the State of Guerrero, Mexico.

4.2 CURRENT TENURE

The Project consists of seven mineral concessions, covering a total area of approximately 29,006 ha (Table 4-1 and Figure 4-2). All concessions were granted for a duration of 50 years. The concessions are held in the name of MML. Torex controls 100% of MML. A small tenement, Vianey, is held by a third-party, and excised from the Project area as illustrated in Figure 4-2.



Morelos Gold Project Mineral Resource Statement



Type of tenure	Issuance Date	Expiration Date	Duration	Area (ha)
Mining Concession No. 188793 (La Fe)	November 29, 1990	November 28, 2040	50 years	20
Mining Concession No. 214331 (El Cristo)	September 6, 2001	September 5, 2051	50 years	20
Mining Concession No. 214332 (El Palmar)	September 6, 2001	September 5, 2051	50 years	429.5
Mining Concession No. 214333 (El Anono)	September 6, 2001	September 5, 2051	50 years	25
Mining Concession No. 214334 (San Francisco)	September 6, 2001	September 5, 2051	50 years	27
Mining Concession No. 217558 (Apaxtla 2)	July 31, 2002	July 30, 2052	50 years	2,283.2
Mining Concession No. 224522 (Reducción Morelos Norte)	May 17, 2005	May 1, 2055	50 years	26,201.5
Total Hectares				29,006.2

Table 4-1: Mineral Tenure Summary Table



Morelos Gold Project Mineral Resource Statement





Figure 4-2: Tenure Map

Note: Figure courtesy Torex, sourced from Teck, Oct. 2009. Map north is to top of plan. Grid squares are approximately 5 km x 5 km. Blue outlines indicate tenure outlines of licenses held by Torex; red outlines are the approximate dimensions of the deposits for which mineral resources have been estimated; green outline is a small tenement named Vianey that is held by third parties, and is not part of the Morelos Gold Project.

d) Surface Rights

At the effective date of this report, Torex has signed long-term lease agreements on approximately 1,780 hectares of land covering the Morelos deposit. In addition to these long-term lease agreements, Torex had 3 access agreements in place to facilitate exploration. One with the Ejido Puente Sur Balsas remains active, while the other two have been replaced with the long-term lease agreements.

Torex utilized and maintains the services of Grupo GAP to obtain the land agreements as well as to complete land title searches. The Project area encompasses a number of ejidos and communities, including Real del Limon, Fundición, Nuevo Balsas, Balsas Sur and Campo Arroz Viejo. The area for which mineral resources are estimated is split almost equally between the Ejido Real del Limon and the Ejido Rio Balsa.





e) Long-term Land Lease Agreements

The long-term lease agreements covers the two deposits along with area required for development. Torex signed long-term common land lease agreements with the Rio Balsas and Real del Limon Ejidos along with agreements for individually 'owned' land parcels. Long-term land lease agreements have been executed for a total of approximately 1,780 hectares of land, including two common land lease agreements, one human settlement area agreement and 133 individually owned parcel agreements. There are 6 individually 'owned' parcels at the Rio Balsas and Real del Limon Ejidos for which work is underway to resolve certain administrative issues, such as succession rights and absentee ownership; following which agreements on these small parcels can be finalized and executed.

The terms of all of the lease agreements are believed to be comparable to long-term lease agreements signed by other operating mining companies in the area. The lease agreements are for 30 years with annual payments of 23,000 pesos per hectare during the first two years, and for the subsequent 13 years, the equivalent, in pesos, of 2.5 troy ounces of gold per hectare, calculated at the annual average gold price published by the London Bullion Market Association. Starting in year 16, and every 5 years thereafter, the amount of the annual payments will be renegotiated. As part of the agreement with the Real del Limon Ejido a general agreement on a resettlement of both the La Fundición and El Limon villages was negotiated. Detailed resettlement planning is currently underway.

f) Access Agreements

A surface access agreement was enacted between members of the Ejido Rio Balsas and MML in May 2011. This agreement granted MML access to the Ejido Rio Balsas lands to carry out exploration activities. The agreement is effective until the 25th of May, 2012. This exploration agreement has been superseded by a long-term occupation agreement.

An access agreement was entered into between the members of the Ejido Puente Sur Balsas and MML in July 2011. This agreement allowed MML a one-year right to undertake exploration activities on the Ejido Puente Sur Balsas's land. This agreement is effective until the 9th of July, 2012.

A surface access agreement was signed in August 2011, between the Ejido Real del Limon and MML. This agreement allows MML access to the Ejido Real del Limon lands for exploration purposes for 1 year. This agreement is effective until the 24th of August, 2012. This exploration agreement has been superseded by a long-term occupation agreement.

g) Duty Payments

Duty payments for January and July 2010 were made for all mining concessions as seen in Table 4-2.





Mining Concession	Years since Grant made	Amount Paid (Pesos)
La Fe	22	2,495
El Cristo	11	2,495
El Palmar	11	53,580
El Anono	11	3,119
San Francisco	11	3,368
Apaxtla 2	10	160,413
Reducción Morelos Norte	7	930,971

Table 4-2: 2012 Duty Summary Table

As per Mexican requirements for grant of tenure, the concessions comprising the project have been surveyed on the ground by a licensed surveyor. Figure 4-3 is a map showing local communities and infrastructure near the Project.







Figure 4-3: Local Communities and Infrastructure

Note: Figure courtesy Torex. Map North is to the top of the map.





4.3 ENVIRONMENTAL AND SOCIAL RISKS

At the time of this report there are no known environmental or social risks that have a material likelihood of impacting the ability to extract the identified resource.

4.3.1 Discussion

In order to address said material likelihood, Torex has identified the following potential risks associated with the environmental and social aspects of developing the resource:

- Impact to water (both surface and ground)
- Impact on flora and fauna
- Impact on community and settlements
- Impact on archaeological artifacts

For each area of potential risk, studies have been and continue to be undertaken. The focus of these studies is to establish an environmental and social baseline, identification of potential sources of impacts, development of engineering solutions to avoid, reduce or mitigation the potential sources of risk and provide mitigation strategies, and the establishment of continued monitoring for all phases of the project.

These studies include:

- Water
 - Baselines for both surface and ground water
 - Engineering solutions have been identified to control potential sources of impact to water
 - Test work and design are in progress to confirm the engineering solution and determine if any mitigation plans will need to be deployed
 - Monitoring plans will be established and will be tailored to the particular plans that are implemented
- Flora and Fauna
 - Inventory of both flora and fauna have been conducted
 - Mitigation plans to reduce the impact on flora and fauna developed with focus on remediation of site after closure
 - Monitoring plans
- Community and human settlements
 - Baseline established
 - Sources of social impact identified and plans being developed to mitigate them
 - Temporary occupancy agreement reached with communities directly impacted, including resettlement of two communities.
 - o Detailed resettlement plans for communities underway
 - Monitoring plan
- Archaeology
 - The project is located within a registered archaeological zone under the jurisdiction of the National Institute for Anthropology and History ("INAH").





INAH has completed a field review which identified items of archaeology significant and is currently carrying out field work to rescue these items to enable their granting of approval to allow development.

4.4 **PERMITTING CURRENT AND FUTURE**

4.4.1 Exploration

During 2011, permits for exploration work were granted under the General Law for Ecological Equilibrium and the Protection of the Environment and the General Law of Sustainable Forestry Development. Environmental impact assessments and change of land uses applications were submitted and accepted by the Mexican regulatory authorities.

4.4.2 Permitting Required for Mine Development

The permitting process requires that the following documents be submitted for assessment of the suitability of the project:

- **MIA** (Environmental Impact Manifest). Includes a comprehensive review of the significant and potential environmental and social impacts associated with all phases of the project, and describes the measures for avoiding/mitigating these environmental impacts.
 - Status in preparation
 - Approvals have previously been obtained for MIA's for the exploration work
- ER (Environmental Risk Assessment). The Environmental Risk Assessment ("ER") is complementary study to the MIA that specifically addresses risks identified in the MIA
 - o Status in preparation/pending the completion of the MIA report
- **ETJ** (**Technical Justification Study**). The ETJ is complementary to the MIA and is a formal application to the Mexican regulatory authority for change of the land use from forestry to mining.
 - Status in preparation
 - Approvals have previously been obtained for ETJ for the exploration program
- **PPA** (Accident Prevention Program). The PPA is a detailed plan developed from the results of the ER that addresses the contingency and emergency plans for all identified risks. This plan is required to be in place and approved once the project has entered production.
 - Status in preparation
- Explosives Permit required from Secretaría de la Defensa Nacional (SEDENA)
 - Status in preparation





- **Título de Concesión de Agua (Water concession**). Is a concession granted by Comisión Nacional del Agua (CONAGUA) the Mexican water authority for the extraction of water from a regional aquifer.
 - Status Permission to drill wells granted by CONAGUA, Wells completed awaiting final granting of water extraction permit (water concession)
- **Permit to Undertake Activities in Archaeological Areas:** The project is located within a registered archaeological zone under the jurisdiction of the INAH. Authorization from INAH is to develop the Morelos Project is required.
 - Status A field review was completed by INAH on the project area which identified areas of Archeological importance. Torex is currently working with INAH to complete an archaeological rescue plan that will provide for the authorization. INAH Field work is expected to conclude by the end of June 2012 and the approval/positive resolution is anticipated to be issued within 30 working days of submittal.





5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

Details on this subject are as follows:

- a) The project is located approximately 60 km southwest of Iguala and 18 km northwest of Mezcala.
- b) The nearest port to the project is at Acapulco. The project is located near established power and road infrastructure at Mezcala and near centers of supply for materials and workers at Chilpancingo, Iguala and Cuernavaca.
- c) The closest village, Nuevo Balsas, is a small agricultural-based community with a regional population of about 1,000 people. Nuevo Balsas is accessed by a narrow, paved highway from Iguala. The deposits are accessed from Nuevo Balsas via a 5 km single-lane gravel road.
- d) The project is located in a sub-tropical zone that receives about 770 mm of precipitation annually. The months with the most rainfall are June through September. Very little precipitation occurs between November and April. However, the project area can be affected by tropical storms and hurricanes which can result in short-term high precipitation events. These events can produce severe erosion, flash flooding, debris flows and poor road conditions.

The average annual temperature is 26–28°C. The dominant wind direction from May to December is north–northwest, and from January to April the dominant wind direction is southwest. It would be expected that any future mining activities within the project would be able to be operated on a year-round basis.

e) The project is currently isolated from major public infrastructure. Exploitation of the deposits will require building a greenfields project with attendant infrastructure. Workforce for any future mining activity could be sourced from the local area; however, the workforce would require dedicated training programs.

Power for any mining operation would be available from a 115 kV line that crosses over the project, and is approximately 2 km from the deposits.

Process water is available and currently being developed by MML approximately 16 km east of the project area. Four wells have been developed and a water concession for 5 million cubic meters per year has been agreed to by the Comisión Nacional del Agua; final written agreement is still outstanding. Potable water for the project will come from these wells. Current site communications consist of internet, cellular and land based telephones.

The region is characterized by large limestone mountains divided by wide valleys (Figure 5-1). The slopes of the hills vary from flattened (5%-10%) to very steep slopes (50%). Within the project area, relief ranges from 470 msl to 1,540 msl.



MORELOS GOLD PROJECT MINERAL RESOURCE STATEMENT



f) Torex has gained sufficient land tenure, via long-term lease agreement, for the construction and operation of a mining plant to exploit the two deposits containing the resource described within this technical report. This land covered by the agreements contains sites for mining operation, process plant, tailings storage area as well as mine waste disposal areas, which are identified within ongoing engineering studies. (See Section 4.2 for additional detail on project land tenure.)



Figure 5-1: Project Physiography





6 HISTORY

The project area (Reducción Morelos Norte claim block) is wholly owned by Torex through its Mexican Subsidiary, MML. Through an agreement dated 6 August 2009, Gleichen acquired 78.8% of the project from Teck via the acquisition of 100% of Oroteck from Teck's subsidiaries Teck Metals Ltd. and Teck Exploration Ltd. for a purchase price of \$150 M and a 4.9% stake in Gleichen. Oroteck was the holding entity for Teck's 78.8% interest in the joint venture company MML in Mexico. The remaining 21.2% interest in MML was purchased from Goldcorp by Gleichen on 24 February 2010. On 4 May 2010, Gleichen changed its corporate name to Torex Gold Resources, Inc.

MML is the registered holder of a 100% interest in the Morelos Gold Project in the State of Guerrero, Mexico. More detailed information

6.1 WORK BY PREVIOUS OWNERS

Information on work performed by previous owners of the property is as follows:

a) In 1995, the former Morelos Mineral Reserve, created in 1983, was divided into a northern and southern portion, and portions allocated to mining companies through lottery. The MMC/Teck joint venture vehicle MML submitted the winning bid for the Morelos Norte license in mid-1998.

In 1998, the first year of exploration, work comprised data review, regional geological mapping, rock chip collection and silt sampling. During 1999, additional regional-scale reconnaissance work was undertaken, consisting of additional geochemical sampling and mapping. By 2000, the El Limon and Media Luna oxide mineralization had been discovered. A trenching program was followed up by RC drilling, totaling 1,888 m.

b) During 2001, additional drilling, comprising 11,088 m, intersected skarn-hosted gold mineralization at El Limon and Guajes East. A test induced polarization ("IP") geophysical program was undertaken to identify the areas of sulphide mineralization. Road building, geological mapping at more detailed scales and additional rock chip sampling was completed.

From 2002, core drilling methods were used. A program of 4,265 m of core drilling was focused on the El Limon North Oxide and Guajes East prospects during 2002. The same program intersected the blind Guajes West skarn. A first-pass mineral resource estimate was undertaken by Teck personnel, based on the RC drilling. A total of 20 line kilometers of IP survey were completed, outlining a number of highs. Mineralization characterization studies to support metallurgical testwork were initiated. During 2003, a total of 3,781 m of core drilling focused on El Limon and Guajes West areas, and the El Limon Sur oxide zone was discovered.

Shallower mineralization in the vicinity of the Guajes West skarn, the Limon Sur oxide zone and the Azcala, La Amarilla and El Naranjo targets were the target of some 10,111





m of core drilling in 2004. Additional metallurgical testwork was undertaken on the drill core, and the mineral resource estimate was updated.

A total of 22,580 m of drilling was completed in 2006 over the El Limon East, Los Mangos, and La Amarilla areas. Detailed mapping and rock and soil sampling continued at the El Querenque and Azcala areas, with encouraging results from soil sampling obtained at El Querenque. In 2007, drilling comprising 33,603 m was undertaken at the El Limon East, Los Mangos, and La Amarilla areas. Mineral resource estimates were again updated. Additional drilling in 2008 (10,544 m) was undertaken at the Guajes and Guajes West zones, Los Mangos and El Querenque.

c) For planning purposes, internal studies to the MML joint venture evaluated the merits of mining the El Limon, Guajes East and Guajes West deposits either by open pit methods only, or by a combination of underground and open pit methods, and processing the mineralization through a conventional gold cyanidation plant. This work was undertaken during 2007/2008. The intention was that these studies would support pre-feasibility level project evaluation; however, the work was not fully completed.

6.2 TOREX RESOURCES (FORMERLY GLEICHEN RESOURCES) OWNERSHIP

Since acquiring the Morelos Project Torex has undertaken and continues to carry out work on the project. This work is focused on the known resource (El Limon and Guajes deposits) the subject of this report and on exploration work outside of the resource area described in Section 9.

6.3 WORK ON THE EL LIMON AND GUAJES RESOURCE

Work on the known resource is focused on the completion of engineering and geological studies with the goal of completed a feasibility study on the deposits. Engineering work is still underway. To support this work, three resource estimates have been declared by AMEC covering the El Limon and Guajes resources. The resource described within this report contains all information from the early report and includes information up to 6 April 2012.

The first resource estimate was completed by AMEC at the request of Gleichen Resources (the former name of Torex) to support the purchase of the Project. This estimate covered the El Limon, Guajes East and Guajes West deposits based on the drilling completed up to and including 2008 and considered mining of the 3 deposits via open pit mining methods. This resource statement is summarized in the report titled, "Gleichen Resources Ltd. Morelos Gold Project, Guerrero, Mexico, NI 43-101 Technical Report" (effective date Oct. 6, 2009).

A second estimate was completed by AMEC which declared a mineral resource for the El Limon deposit that was amenable to underground mining methods. This resource was requested by Torex to enable a review of exploitation of the El Limon deposit via underground mining methods. The results of this resource estimate are summarized in the report titled "Torex Gold Resources Inc., Morelos Gold Project, Guerrero, Mexico, NI 43-101 Technical Report – Underground and Open Pit Resources" (date of issue Jan. 26, 2011, effective date Oct. 22, 2010). This resource estimate uses all drilling completed up to and including 2008. Subsequent to this





report, Torex made the decision to proceed with work focused on recovery of the deposits utilizing open pit mining methods.

A third resource estimate, which is supported by this document, was requested of AMEC and M3 by Torex and incorporates all assays (by both previous owners and Torex) up to 6 April 2012.





7 GEOLOGICAL SETTING AND MINERALIZATION

7.1 **REGIONAL GEOLOGY**

The project is situated in the Nukay district of the Morelos–Guerrero Basin of southern Mexico (Figure 7-1).



Figure 7-1: Tectonic Map of South-Central Mexico

Key: GMp—Guerrero-Morelos platform. Terranes: J—Juárez; Ma—Maya; Mx—Mixteca; Ox—Oaxaca; SM—Sierra Madre. Overlap volcanic provinces: SMO—Sierra Madre Occidental; TMVB—Transmexican Volcanic Belt. Figure from Silva-Romo, 2008. Red dot indicating approximate location of Morelos Gold Project added by AMEC.

a) The roughly circular basin is occupied by a thick sequence of Mesozoic platform carbonate rocks successively comprising the Morelos, Cuautla, and Mezcala Formations, and has been intruded by a number of early Tertiary-age granitoid bodies. The basin is underlain by Precambrian and Palaeozoic basement rocks. The Cretaceous sedimentary rocks and granitoid intrusions are unconformably overlain by a sequence of intermediate volcanic rocks and alluvial sedimentary rocks (red sandstones and conglomerates) which partially cover the region.

The Mesozoic succession was folded into broad north-south-trending paired anticlines and synclines as a result of east-vergent compression during Laramide time (80–45 Ma).





The project area lies at the transition between belts of overthrust rocks to the west and more broadly-folded rocks to the east.

Regional structures include sets of northeast- and northwest-striking faults and fractures which cut both the carbonate sequence and the intrusive rocks. The distribution of intrusive bodies in northwest-trending belts is thought to reflect the control on their emplacement by northwest trending faults (de la Garza et. al. 1996).

Regional mineralization styles comprise skarn-hosted and epithermal precious metal deposits and volcanogenic massive sulphide deposits. In Guerrero, these occur as two adjacent arcuate belts, with the gold belt lying to the east and on the concave margin of the massive sulphide belt. Both belts are approximately 30 kilometers wide and over 100 km long, from northwest to southeast.

7.2 LOCAL GEOLOGY

a) The Morelos Formation comprises fossiliferous medium- to thickly-bedded finelycrystalline limestones and dolomites. The lower contact is not exposed within the project, but from available PEMEX drill data, the Morelos Formation has a thickness of at least 1,570 m near the community of Mezcala (Teck Resources, 2008). The formation is widely distributed in the central and eastern parts of the project and is found altered to marble outboard of the skarn zones, in addition to hosting small jasperoid occurrences.

The Cuautla Formation transitionally overlies the Morelos Formation. It comprises a succession of thin- to medium-bedded silty limestones and sandstones with argillaceous partings and minor shale intercalations. The thickness of the Cuautla Formation is variable but averages 20 m. At El Limon, the skarn body is developed at the stratigraphic position of the Cuautla Formation, although a complete lack of silty limestone exposures suggests that the Cuautla Formation is absent in most of the drill area. Some small exposures of thin-bedded silty limestones that could represent the Cuautla Formation are present at the El Limon North Oxide Zone and also near the Guajes area.

The Mezcala Formation transitionally overlies the Cuautla Formation and consists of a platformal to flysch-like succession of intercalated sandstones, siltstones, and lesser shales which have been extensively altered to hornfels near intrusive contacts at the El Naranjo and El Limon areas on the west part of the project. In contrast to the Morelos and Cuautla Formations, the Mezcala Formation sedimentary rocks are commonly strongly deformed into tight folds. Differential folding between units implies that formational contacts have served as dislocation surfaces. Dykes and sills crosscut hornfels altered Mezcala Formation adjacent to contacts with Palaeocene intrusive rocks. At the El Limon deposit, hornfelsed sedimentary rocks form the hanging wall and acted as a seal during the process of skarn development. The Mezcala Formation has been eroded away in most of the eastern part of the project.

b) An intrusive stock complex, oriented northwest–southeast, intrudes the carbonate sedimentary rocks (Figure 7-2 and Figure 7-3). The dominant intrusive composition is





granodioritic, although some quartz monzonites, monzonites, and diorites have been identified, in addition to minor, late andesitic dykes.

Geochemical data indicate that the intrusive rocks are sub-alkaline with alkali-calcic to calc-alkalic characters, and are strongly reduced. Argon dating returned age dates of approximately 66 Ma (M3 Mexicana, 2008).

Similar ages were noted for the granodiorite intrusions occurring at Nukay/Los Filos of 64.99 ± 0.35 Ma and 63.39 ± 0.20 Ma. Skarn-hosted gold mineralization is developed along the contacts of the intrusive rocks and the enclosing carbonate-rich sedimentary rocks (see Figure 7-3).

In the northeast corner of the property, there is post-mineral cover comprising felsic volcanic rocks, which are probably coeval with the last Tertiary igneous events.



Figure 7-2: Regional Geologic Map

Note: Figure courtesy Torex, and sourced from Teck, 2009. The Los Filos and Bermejal deposits are outside the project boundary.







Figure 7-3: Project Geological Map Showing Geology in El Limon and Guajes Areas Note: Figure courtesy Torex, sourced from Teck, 2009. Crossed picks indicate artisanal workings.

7.3 **PROJECT GEOLOGY**

Since exploration commenced in the project area in the 1990s, two major gold deposits, El Limon, and Guajes, have been discovered, together with a number of smaller prospects and exploration targets. El Limon has been sub-divided into El Limon Norte Oxide, El Limon Main and El Limon Sur. Guajes is sub-divided into Guajes East and Guajes West, Figure 7-4.







Figure 7-4: Deposit Location Map

7.3.1 El Limon

Gold mineralization at El Limon occurs in association with a skarn body that was developed along a 2 km long corridor following the northeast contact of the El Limon granodioritic stock (refer to Figure 7-4). The skarn zone occurs at the stratigraphic level of the Cuautla Formation where marble is in contact with hornfelsed sedimentary rocks of the Mezcala Formation. Skarn



Morelos Gold Project Mineral Resource Statement



alteration and mineralization at El Limon are fairly typical of calcic Au-skarn systems. Zones of coarse, massive, garnet-dominant skarn appear within and along the stock margin, with finegrained pyroxene-dominant skarn more common at greater distances from the contact with the stock. Significant gold mineralization at El Limon is dominantly associated with the skarn, preferentially occurring in pyroxene-rich exoskarn but also hosted in garnet-rich endoskarn that has been affected by retrograde alteration.

Dykes and sills are found to crosscut the hornfels and marble, most of them spatially associated with the skarn formation.

The main El Limon intrusion consists of an approximately peanut-shaped stock of granodioritic composition, which is approximately 6 km long by 2.5 km wide and has a general elongation of N45W. Usually, the skarn is developed along the contacts with this stock, although the important bodies are controlled by major northwest and northeast structures coincident with the Cuautla Formation and the intrusive contacts. The contact of the intrusion at El Limón, although irregular, is generally quite steep and almost perpendicular to bedding.

7.3.1.1 El Limon Main

The skarn zone at El Limon is cut by the La Flaca Fault, a steeply dipping northeast-trending fault. Skarn north of the La Flaca Fault (see Figure 7-4) is exposed on surface, trends north-northwest for about 700 m and dips 40° to 70° to the southwest. Typically gold mineralization occurs within the main skarn body that developed at the marble–hornfels boundary. There are also a few irregular mineralized lenses of skarn developed in the hanging wall hornfels. Fractures with development of skarn over a few centimeters are common in the hanging wall hornfels. Skarns south of the La Flaca fault extends southeast for about 800 m. The strike of the skarn is generally north northeast and dips gently-to-moderately northwest, and is primarily demarcated by drilling. Near the fault, the skarn is developed at the contact of the marble and hornfels but to the south a granodiorite sill has intruded along the contact and mineralization occurs at the contact of the granodiorite and overlying hornfels.

A cross-section through the main part of El Limon is shown in Figure 7-5 and a long section through the northeast portion in Figure 7-6.







Figure 7-5: Cross Section, El Limon. Drill Intercepts Not Orthogonal to the Dip Angle of the Skarn are Longer than True Thickness







Figure 7-6: Long Section through NE Portion of El Limon. Drill Intercepts Not Orthogonal to the Dip of the Skarn are Longer than True Thickness

7.3.1.2 El Limon Sur Oxide

The El Limón Sur Oxide Zone occurs approximately 1 km south of the main El Limon skarn deposit and appears to be an oxidized remnant of skarn that crops out on a steep ridge extending down the mountain towards the Balsas River. The zone is strongly oxidized and has been largely eroded so that only the roots of the skarn system remain as a small, near-surface oxide deposit (Figure 7-7). Drilling and surface mapping has defined a zone of mineralization approximately 100 m by 200 m and with a maximum thickness of 100 m. This is an occurrence mainly of endoskarn and minor exoskarn emplaced at the contact between the intrusive and the host rocks represented by the marble and hornfels.







Figure 7-7: Cross-Section, El Limon Sur Oxide. Drill Intercepts Not Orthogonal to the Dip of the Skarn are Longer than True Thickness





7.3.1.3 El Limon Norte Oxide

The skarn at El Limon Norte Oxide outcrops and characterized by high oxidation along a northwest trending ridgeline for about 500 m. Mineralization occurs in skarn that developed along the contact between the Mezcala and Morelos Formations (at the stratigraphic level of the Cuautla Formation) near the main El Limon granodiorite intrusion. Numerous sills and dikes of granodiorite and other felsic porphyry intrusions were also emplaced along this contact. Weathering and oxidation has affected the rock and destroyed most of the primary minerals and textures associated with mineralization. However, isolated zones of less weathered rock are present and permit identification of original skarn minerals which minerals consist of garnet and pyroxene. Garnet tends to forms along specific layers in the sedimentary rocks and as cross-cutting veins in both sedimentary and intrusive rock while pyroxene is the dominant mineral elsewhere. Various iron oxide minerals are abundant and there are local concentrations of copper oxides and copper sulfate minerals. See Figure 7-8.



Figure 7-8: Cross-Section, El Limon Norte Oxide. Drill Intercepts Not Orthogonal to the Dip of the Skarn are Longer than True Thickness

Note: Figure courtesy of Torex, May 2012.





7.3.2 Guajes

7.3.2.1 Guajes East

The Guajes East skarn zone is developed in the same lithologies on the opposite side of the same intrusion that is present at El Limon. Drilling indicates the skarn development at Guajes East is 300 m wide, up to 90 m thick, and is continuous along at least 600 m of the northwest edge of the intrusive.

At Guajes East the intrusion underlies the sedimentary rocks and dips about 30° to the west, subparallel to bedding. There are also a number of shallow-dipping intrusive sills at Guajes that crosscut the skarn and although they are occasionally mineralized at or near their contacts, for the most part, the sills are non-mineralized (Figure 7-9).



Figure 7-9: Cross-Section, Guajes East. Drill Intercepts Not Orthogonal to the Dip of the Skarn are Longer than True Thickness

Note: Figure courtesy of Torex, May 2012.

7.3.2.2 Guajes West

The Guajes West area is located along the Northwest contact of the El Limon granodioritic stock. Surface geology is represented by the hornfels–intrusive contact with some local patchy and structure-controlled skarn occurrences. The skarn formed at the contact between hornfels and





marble; however, in addition to proximity to the granodioritic stock there are numerous associated porphyritic dikes and sills.

There is a quartz–feldspar porphyry sill that has been strongly altered to kaolinite, sericite, pyrite and carbonate with some brecciated and silicified portions. The sill forms the hanging wall of the Amarilla fault, which can be traced along a distance of more than 2.5 km from the Balsas River to the Guajes West area. The fault, which strikes N30-40E and dips from 40° to 60° to the northwest, occurs 20 m to 50 m above the mineralization. Mineralization at Guajes West does not crop out and was discovered based on the El Limon geological model. A cross-section through the deposit is included as Figure 7-10.



Figure 7-10: Cross-Section, Guajes West. Drill Intercepts Not Orthogonal to the Dip of the Skarn are Longer than True Thickness

Note: Figure courtesy of Torex, May 2012





7.4 MINERALIZATION

7.4.1 Skarn Types

7.4.1.1 Endoskarn

Endoskarns are dominated by diopsidic pyroxene with lesser amounts of younger crosscutting andraditic garnets. If gold is present in the unit, it is associated with retrograde alteration of garnet-pyroxene skarn.

7.4.1.2 Exoskarn

Excluding relatively fine-grained hornfelsed rocks, the exoskarns are dominated by what appears to be intermediate 'grossularite-andradite' garnets, with late, coarse-grained, iron-rich garnets (i.e. more nearly pure end-member andradites). Iron-rich pyroxenes (salite to hedenbergite) are associated with these garnets. Gold mineralization is predominantly part of the earliest retrograde event.

Overprinting this latest 'peak' prograde metasomatism are early, retrograde, probably Fe-rich amphiboles (black in color) and slightly later black, fine-grained chlorite that are very closely associated with the gold-associated sulphides pyrrhotite and arsenopyrite. Retrograde calcite and what appear to be hypogene iron oxides are additionally associated with this earliest retrograde event. The retrograde alteration appears to be the closing chapter of the peak prograde metasomatic event, and is thus closely related in space and time to the exoskarn.

7.4.1.3 Retroskarn

As noted above, the retroskarn is a calcite \pm clay \pm oxide-altered pre-existing skarn. The precursor skarn comprised garnet \pm salitic (Fe-rich) to hedenbergitic (still more Fe-rich) pyroxenes. During site visits by Torex personnel, a type of strongly-oxidized skarn was noted in drill core that consistently runs very high gold grades and is recognizable even in surface outcrops in the area of the El Limon 'oxide zone'. This unit has also been logged during Teck's work as "retroskarn".

7.4.1.4 Oxide

This refers to a portion of the El Limon mineralized zone that is dominated by iron oxides such as hematite and goethite. Some iron-rich oxides may be a product of supergene weathering of Fe-rich garnets and pyroxenes, locally giving massive surficial oxides. However, other iron-rich oxides appear to be a true hypogene retrograde 'event'. Evidence for this is seen in outcrop where there appears to be a zonation from relatively 'fresh' garnet skarn outcrops to 'engimatic' oxide zones, to a still more peripheral 'sanding' of peripheral calcareous sedimentary rocks (i.e. the presumably somewhat acidic leaching of carbonate components in sandy units has left a relatively un-cemented and thus 'sandy' rock).





7.4.1.5 Mineralization

The El Limon skarn has a high pyroxene to garnet ratio. The pyroxene is typically dark green, very fine-grained, and is more abundant towards the contact with the hanging wall hornfels. In contrast, garnet abundance increases towards the intrusion and its contact with the footwall marble. Petrographic observations suggest that pyroxene is calcium-rich with some iron; garnet is typically grossularite with lesser almandine (McLeod, 2004). Magnetite is very rare and has been observed in pods only very locally in one or two core holes in the Guajes area.

Gold and silver occurs most often with early sulphide mineralization but also with late carbonate, quartz, and adularia. Native gold most commonly occurs in close association with bismuth and bismuth tellurides but also occurs with chalcopyrite and as inclusions in arsenopyrite. The gold associated with bismuth tellurides is extremely fine-grained, in the range of a few micrometers to some tens of micrometers (Teck Resources, 2008).

Gold and silver mineralization at El Limon and Guajes extends over 1,700 meters along strike with widths ranging from 60 to 500 meters. Mineralization at El Limon have been intercepted to a depth of 470 meters from surface and intercepted at Guajes to a depth of 300 meters from surface.

The dominant sulphides are pyrrhotite and pyrite with lesser but locally abundant amounts of chalcopyrite and arsenopyrite occurring in veinlets and open-space fillings. Petrographic studies indicate that pyrrhotite commonly has been partially replaced by a mixture of pyrite-marcasite, although the earliest pyrite is replaced by pyrrhotite. Chalcopyrite is associated with pyrrhotite and usually is present as very fine grains. Very minor amounts of tennantite have been noted in a few thin section samples. Fluorite is rarely observed.

Minor amounts of sphalerite and molybdenite are also present. Sphalerite tends to occur with, or as inclusions in, chalcopyrite. Molybdenite, although spatially closely associated with sulphides, usually is free in gangue and occurs as small laths and bent lamellae in the 20–50 μ m size range. Coarse-grained stibnite along surface cavities has been found along some holes drilled in the east portion of El Limon skarn.

7.5 COMMENTS ON SECTION 7

In the opinion of AMEC, the mineralization style and setting of the deposits is sufficiently well understood to support Mineral Resource estimation.





8 **DEPOSIT TYPES**

Mineralization identified within the project to date is typical of intrusion-related gold skarn deposits.

Gold skarns typically form in orogenic belts at convergent plate margins are related to plutonism associated with the development of oceanic island arcs or back arcs (Ray, 1998).

Mineralization frequently displays strong stratigraphic and structural controls. Deposits can form along sill–dyke intersections, sill–fault contacts, bedding–fault intersections, fold axes, and permeable faults or tension zones. In the pyroxene-rich and epidote-rich types, mineralization commonly develops in the more distal portions of the alteration envelopes. In some districts, specific suites of reduced, Fe-rich intrusions can be spatially related to Au-skarn mineralization. Mineralization in the garnet-rich Au skarns tends to lie more proximal to the intrusions.

Deposits range from irregular lenses and veins to tabular or stratiform orebodies with lengths ranging up to many hundreds of meters. Mineral and metal zoning is common in the skarn envelope. Gold is frequently present as micrometer-sized inclusions in sulphides, or at sulphide grain boundaries. Mineralization in pyroxene-rich and garnet-rich skarns tends to have low Cu:Au (<2000:1), Zn:Au (<100:1) and Ag/Au (<1:1) ratios.

The deposits of the project area are considered to be examples of calcic-type skarns. All of the deposits are genetically related to the El Limon granodiorite, and the hydrothermal system that accompanied granitoid emplacement. Zones of coarse, massive, garnet-dominant skarn appear within and along the stock margin, with fine-grained pyroxene-dominant skarn more common at greater distances from the contact with the stock. Both types replace intrusive rocks (endoskarn) and hornfels (exoskarn). Common sulphides include pyrrhotite, pyrite, chalcopyrite, arsenopyrite, and trace sphalerite, molybdenite, galena, and bismuth minerals. Gold mineralization is found primarily within the main skarn zones, and oxide zones, although low-grade gold values have also been obtained from hornfels zones with calcite–biotite–chlorite–sulphide veins.

Skarns develop in sedimentary carbonate rocks, calcareous clastic rocks, volcaniclastic rocks or (rarely) volcanic flows. They are commonly related to high to intermediate-level stocks, sills, and dykes of gabbro, diorite, quartz diorite, or granodiorite composition. Skarns are classified as calcic or magnesian types; the calcic subtype is further subdivided into pyroxene, epidote, or garnet-rich members. These contrasting mineral assemblages reflect differences in the host rock lithologies as well as the oxidation and sulphidation conditions in which the skarns developed (Ray, 1998):

• Pyroxene-rich Au skarns typically contain a sulphide mineral assemblage comprising native gold ± pyrrhotite ± arsenopyrite ± chalcopyrite ± tellurides ± bismuthinite ± cobaltite ± native bismuth ± pyrite ± sphalerite ± maldonite. They generally have a high sulphide content and high pyrrhotite:pyrite ratios. Mineral and metal zoning is common in the skarn envelope. Extensive exoskarns form, generally with high pyroxene:garnet ratios. Prograde minerals include diopsidic to hedenbergitic clinopyroxene, K-feldspar,





Fe-rich biotite, low Mn grandite (grossular–andradite) garnet, wollastonite, and vesuvianite. Other less common minerals include rutile, axinite, and sphene. Late or retrograde minerals include epidote, chlorite, clinozoisite, vesuvianite, scapolite, tremolite–actinolite, sericite, and prehnite.

- Garnet-rich Au skarns can contain native gold ± chalcopyrite ± pyrite ± arsenopyrite ± sphalerite ± magnetite ± hematite ± pyrrhotite ± galena ± tellurides ± bismuthinite. They generally have a low to moderate sulphide content and low pyrrhotite:pyrite ratios. The garnet-rich Au skarns typically develop an extensive exoskarn, generally with low pyroxene:garnet ratios. Prograde minerals include low Mn grandite garnet, K-feldspar, wollastonite, diopsidic clinopyroxene, epidote, vesuvianite, sphene, and apatite. Late or retrograde minerals include epidote, chlorite, clinozoisite, vesuvianite, tremolite-actinolite, sericite, dolomite, siderite and prehnite.
- Epidote-rich Au skarns often contain native gold ± chalcopyrite ± pyrite ± arsenopyrite ± hematite ± magnetite ± pyrrhotite ± galena ± sphalerite ± tellurides. They generally have a moderate to high sulphide content with low pyrrhotite:pyrite ratios. Abundant epidote and lesser chlorite, tremolite-actinolite, quartz, K-feldspar, garnet, vesuvianite, biotite, clinopyroxene, and late carbonate form in the exoskarn.

8.1 COMMENTS ON SECTION 10

In the opinion of the AMEC QP, a skarn deposit type is an appropriate model for the project and for development of mineral resource estimates.





9 **EXPLORATION**

Prior to the acquisition of the Project by Torex, Teck completed extensive exploration activities on the project that included regional and detail mapping, rock, silt and soil sampling, trenching, RC and diamond drilling, ground IP geophysical surveys, aeromagnetic survey, mineralization characterization studies and metallurgical testing of samples from Guajes East, Guajes West, El Limon and El Limon Sur. Petrographic studies and density measurements on the different lithologies were also conducted. In addition, historic small-scale mining activity had been undertaken by artisanal miners in some areas of the project.

Programs completed by previous companies are discussed in Section 6 of this report. Since commencing work in March 2010, Torex has carried out a variety of exploration activities at Morelos including geologic mapping, rock (chip and channel) sampling, and diamond drilling, as well as review of historic project data. Based on a recent review of historical data and results obtained by Torex, an exploration strategy and exploration plan for the known resource as well as targets outside of the resource area was developed.

9.1 SURVEY

The coordinate system now used for all data collection and surveying at the Morelos project is the Universal Transverse Mercator ("UTM") system Zone 14 North and WGS 84 datum.

9.2 GEOLOGIC MAPPING

Detailed mapping at a scale of 1:5000 has been completed by Torex personnel at the Naranjo and Media Luna targets (Figure 9-1). Additional detailed mapping was completed by consultants at the south end of Naranjo, La Fe, Guajes South, and Pacifico targets, and in the southeast part of the Limon deposit. This mapping has been incorporated into the district map initially prepared by Teck.

9.3 GEOCHEMICAL SAMPLING

Torex carried out channel sampling programs outside of the resource area, Media Luna and El Cristo in 2011, to help define possible drill targets. Channel samples were collected along existing roads after cleaning with a bulldozer. A total of 1,020 samples were collected for assay and represent a total length of 1,651 meters. The number of samples does not include the work done at Limon South. As Limon South was included in the mineral resource estimate, these channel samples are discussed in Section 10 of this report.

9.4 ANALYSIS OF EXISTING GEOPHYSICAL DATA

Data from the 200 m line-spacing aeromagnetic survey flown by Teck was reprocessed to create a 3-D magnetic susceptibility model for the project area. This model was recently re-evaluated to locate drill targets in the Media Luna, Todos Santos, Pacifico, Corona, and Limon South/Fortuna areas.





9.5 GEOTECHNICAL STUDIES

Work completed for the feasibility study includes drilling about 2,200 meters of diamond drilling in 10 diamond drill holes as part of the hydrology investigation. This work is ongoing. Seven diamond holes were drilled in the area of the proposed pit design to provide geotechnical data to assist with mine design.

9.6 OTHER TARGET AREAS

A review of all exploration targets within the Morelos property was recently completed and resulted in prioritization of 12 targets, most of which have been recognized as targets in the past. These include Media Luna, Fortuna, Todos Santos South, Pacifico, Corona, Querenque, Tecate, Azcala, El Olvido, La Fe, Najanjo SW and El Cristo (Figure 9-1).



Figure 9-1: Morelos Revised Exploration Targets Shown on District-Scale Geologic Map Note: Figure courtesy of Torex, May 2012.

Media Luna: The Media Luna prospect is located on the southeast margin of the El Limon granodiorite stock, approximately 5 kilometers south of the El Limon gold deposit. Geologically, the area is characterized by a structurally complex sequence of





Morelos Formation limestones and Mezcala Formation sediments. The El Limon stock borders the sedimentary package at the north end of the prospect and dips to the southsouthwest beneath the sediments. The prospect area is defined by a sharp and intense magnetic high anomaly of approximately 3 km x 1.5 km dimension. Within the magnetic high and along the main Media Luna topographic ridge, several fault and fracture zones occur with variable silicification, iron-oxides and local high-grade gold values from surface sampling.

Initial drilling on Media Luna prospect by Torex has identified gold mineralization over a 900 meter strike length. Torex has released the assay data on the first five holes drilled into the Media Luna target. Table 9-2 summarizes the results available to date. Drill collar locations are shown in Figure 9-3.

The Media Luna mineralization is hosted by a massive iron and sulphide skarn situated at the main intrusive-sediment contact. The skarn has a mineralized thickness of between 4 to 21 meters, with the higher grade portions of the gold, silver, and copper mineralization being 4 to 7 meters in thickness.

Table 9-1 list the drill hole coordinates and surveys and Table 9-2 shows selected mineralized results from the Media Luna drilling. Figure 9-2 through Figure 9-4 show the Media Luna prospect in greater detail.

HoleID	Easting (m)	Northing (m)	Elevation (m)	Azimuth (degree)	Dip (degree)	Depth (m)
ML-01	423212.2	1984572.5	1282.6	275.0	-62.0	466.5
ML-02	422926.5	1984763.3	1475.7	0.0	-90.0	696.0
ML-06	422844.3	1985260.1	1531.6	320.0	-70.0	507.0
ML-07	422807.6	1985302.9	1536.9	320.0	-55.0	414.0
ML-08	422725.3	1984664.5	1353.7	90.0	-62.0	578.0

 Table 9-1:
 Media Luna Drill Hole Collar Coordinates and Surveys





		T T
Table 9-2: Torex (Told Resources Inc.	Drilling Results – Media	Luna Target (15-Jun-12)

Drill- Hole	Dip	Total Length (m)	Intersection		Core Length	Estimated True	Au	Ag	Cu	Au equiv					
	6			From (m)	To (m)	(m)	Thickness (m)	g/t	g/t	%	(*) g/t				
ML-01 -62	60	466.5		406.3	416.36	10.06	10.6	3.31	31.2	1.35	5.91				
	-02		including	408.64	413.46	4.82	4.82	6.13	58.7	2.4	10.81				
ML-02 -9	00	696		500.9	516.7	15.8	13.68	2.05	12.1	0.55	3.1				
	-90		including	503.05	507.43	4.38	3.79	4.27	9.3	0.78	5.61				
ML-06	-70	507		282.43	286.47	4.04	3.8	0.2	3.9	0.46	0.96				
ML-07	-55	FF	07 55	444	44.4	5 414		328.18	342.57	14.39	11.79	2.19	24.2	0.85	3.91
		414	including	334.36	338.37	4.01	3.28	4.91	44.3	1.38	7.8				
	<u></u>	60 570	570		514.54	536.12	21.58	18.69	2.39	8.9	0.57	3.41			
IVIL-08	-02	576	including	514.54	521.6	7.06	6.11	6.56	9.9	1.15	8.47				

*The gold equivalent grade, including copper and silver values, is based on 100% metal recoveries. The gold grade equivalent calculation used is as follows:

Au g/t (EQ) = Au g/t + (Cu grade x ((Cu price per lb/Au price per oz) x 0.06857 lbs per oz x 10,000 g per %)) + (Ag grade x (Ag price per oz/Au price per oz)).

The metal prices used were: Gold - \$1,600/oz, Copper - \$3.50/lb, Silver - \$29.59/oz



Morelos Gold Project Mineral Resource Statement







Note: Figure courtesy of Torex, June 2012.







Figure 9-3: Media Luna Exploration Drilling – June 2012






Figure 9-4: Geological Sectional View Looking Northeast of Media Luna with Drill Holes.

Note: Figure courtesy of Torex, June 2012

Fortuna: The target is based on an anomaly beneath the El Limon deposit that is recognized in the 3-D magnetic susceptibility model.

Todos Santos: A poorly-studied area with significant outcropping skarn present and gold values in rock samples along a northeast-trending structure intersecting the skarn. There is also an intense magnetic high similar to Media Luna in the southern half of the target. No follow up work has been done to date.

Pacifico: Located 1.5 km north of El Limon and defined by the presence of a strong magnetic anomaly near an intrusion-limestone contact. One Torex drill hole on the east side of the target intersected a complex intrusive-hornfels package and significant low-level gold and trace element anomalism. The hole has significant hornfels at depth with local sulphides, including arsenopyrite and pyrrhotite. Two geologic traverses across the target were made in early 2012, no additional work has been done since.

Corona: Defined by the presence of a strong magnetic high north of El Limon. Morelos Formation limestone is mapped in the center of the area but there has been no geochemical sampling or detailed mapping. No follow-up work has been done to date.





Querenque: Previous work by Teck indicates the area comprises hornfelsed Mezcala Formation with minor skarn and granodiorite intrusive similar to El Limon. Teck drilled 3 holes that returned minor gold values. No work has been undertaken by Torex in this area to date.

Tecate: Defined by the presence of a strong magnetic high in an area mapped as Mezcala Formation sediments. No work has been carried out by Torex and there appears to be no previous work on the target.

Azcala: An area of silicified limestone and hydrothermal breccia with gold up to 3.5 g/t in rock chip samples reported by Teck. Teck drilled 3 holes with minor gold intersections at shallow depth. No work has been conducted by Torex.

El Olvido: Defined by the presence of an intense magnetic high in area mapped as Morelos Formation limestone near southern property boundary. No work has been carried out on the target by Torex.

La Fe: The target comprises a complex package of hornfelsed Mezcala Formation cut by numerous sills and dikes of variable composition. The contact zone between granodiorite and sedimentary rocks is poorly understood. There are historic workings with gold mineralization in steeply dipping structural zones adjacent to argillic-altered dikes and sills. Minimal work has been conducted by Torex with work completed consisting of two geological reconnaissance traverses.

Naranjo: Exploration work including mapping and drilling has been completed at Naranjo, with preliminary data available. Results are being validated through check assays and geological interpretation.

El Cristo: Results to date are disappointing but need to be validated through follow-up drilling and testing the remaining part of the target area.





10 DRILLING

Drilling was completed between 1997 and 2012. A database cutoff date of 6 April 2012 resulted in holes up to TMP-1430 being included, for a total of 1202 drill holes (197,980 m) and 43 channels (4,162 m). Drill data are summarized in Table 10-1. Drill hole locations are shown in Figure 10-1 to Figure 10-3. From this database, the drill data encompassing El Limon and Guajes was used to support the mineral resource estimate. In 2011, channel samples were re-sampled, and in some cases lengthened, to improve the knowledge of the extent of surface mineralization. AMEC considers these channel samples suitable for inclusion in resource estimate.

Further drilling, completed by Torex after the April 6th database cutoff date, fell outside of the resource area, and was mainly located south of the river.

Year	No. of Core Holes	Total Core Lengths (m)	No. of RC Holes	Total RC Lengths (m)	No. of Channels	Total Channel Lengths (m)	Total All Data	Total All Lengths
2000	0	0	17	2,028.4	0	0	17	2,028.4
2001	7	1,647.8	44	7,928.7	0	0	51	9,576.5
2002	53	7,720.3	0	0	0	0	53	7,720.3
2003	28	3,778.6	0	0	0	0	28	3,778.6
2004	53	8,031.1	0	0	0	0	53	8,031.1
2006	133	22,740.1	0	0	0	0	133	22,740.1
2007	199	33,325.1	0	0	0	0	199	33,325.1
2008	71	10,544.5	0	0	0	0	71	10,544.5
2010	139	30,966.7	0	0	0	0	139	30,966.7
2011	365	59,695.6	0	0	43	4,162.2	408	63,857.8
2012	80	8,602.6	0	0	0	0	80	8,602.6
Unknown (pre- 2008)	13	970.4	0	0	0	0	13	970.4
Total	1,141	188,022.8	61	9,957.1	60	4,162.2	1,262	202,142.1

Table 10-1: Drill Hole Summary Table



Morelos Gold Project Mineral Resource Statement





Figure 10-1: Drill Hole Location Map Within Property Boundary, Morelos Gold Project

Note: color codes on map are: blue = RC drill hole and green = core drill hole Figure courtesy of Torex, sources from Teck, drill holes added by AMEC, May 2012.







Figure 10-2: Drill Hole and Channel Sample Location Map, El Limon

Note: color codes on map are: orange = channel, blue = RC drill hole and green = core drill hole Note: Figure courtesy of AMEC, May 2012.









Note: color codes on map are: orange = channel, blue = RC drill hole and green = core drill hole Note: Figure courtesy of AMEC, May 2012.

10.1 DRILL CONTRACTORS

Drilling under Torex was undertaken by a number of contractors, including Major Drilling, G4 Drilling, Boart Longyear, Moles and Colima. AMEC has no information on the type of drill rigs employed.





10.2 DRILL METHODS

10.2.1 RC Drilling

All RC drilling was performed dry unless water injection became necessary to stabilize the hole. Some RC drilling was performed as pre-collars for core drill holes.

Sample recoveries were not recorded for RC holes.

10.2.2 Core Drilling

Diamond drilling typically recovered HQ size core (63.5 mm) from surface, then was reduced to NQ size core (47.6 mm) above skarn alteration and mineralization.

Any break in the core made during removal from the barrel was marked with a "color line". When breakage of the core was required to fill the box, edged tools and accurate measure of pieces to complete the channels was the common practice to minimize core destruction. The end of every run was marked with a wooden block and the final depth of the run.

Core was transferred to wooden core boxes, marked with "up" and "down" signs on the edges of the boxes using indelible pen. The drill hole number, box number and starting depth for the box was written before its use, whilst end depth were recorded upon completion. All information was marked with indelible pen on the front side of the box and also on the cover.

Transport of core boxes to the core shed was done by personnel from the company that was managing the drill program, or the drilling supervisor. Core handling logs were completed that included details for all persons involved in any step during the logging and sampling procedures.

10.2.3 Channel Samples

Torex collected 1,997 surface channel samples using rock saws at El Limón Sur and El Limón Norte Oxide with the objective of further constraining the geological model as well as for assessing mineralization at surface

Delineation of the channel sampling lines was dictated by the availability of outcrop along each road cut line, and in the absence of outcrop, the most proximal outcrop to the line was sampled, irrespective of lithology. The results of the channel sampling is broadly consistent with existing geological mapping and geochemical grab sampling results generated to date, and further validates continuity of gold mineralization at surface in skarn, breccias, intrusive, hornfels and other lithologies.

A total of 1,179 samples were taken at El Limón Norte Oxide and 818 samples were collected at El Limón Sur. Vertical cuts of 0.2 to 0.3 m were spaced 3 to 5 cm along a 2 m horizontal sample length along road cuts. Rock material in-between the vertical cuts was then chipped out.

Prior to sampling, the area was inspected and sample intervals marked for extraction. A Husqvarna K750 Rock hand saw was used to place the vertical cuts along the face of the wall



Morelos Gold Project Mineral Resource Statement



and chisels were used to extract the samples. Channels already marked were cut on their borders and then material extracted and deposited on to a clean piece of plastic placed below the area to be sampled. The chipped out material was collected off the plastic and then transferred to plastic sample bags for analysis. Aluminum tags, painted markings and color flags were left at the sample sites. Figure 10-4 shows an example of channel sampling being carried out on the project.



Figure 10-4: Example of Channel Sampling

Note: Figure courtesy of Torex, May 2012.

Lithology data was collected at each sample site. Sample locations were recorded using handheld GPS Garmin GPSMAP 60CSx. All samples were delivered to the SGS laboratory in Durango City, Mexico, where they were dried and split. The pulps were then analyzed at SGS laboratory in Durango, Mexico.

10.3 GEOLOGICAL LOGGING

Logging of RC drill cuttings and core utilized standard logging procedures implemented by Teck. Initial logging utilized paper forms, with data hand-entered into a database from the form. From 2006, logging was completed using hand-held computers. Logs recorded lithologies, skarn type, fracture frequency and orientation, oxidation, sulphide mineralization type and intensity, and alteration type and intensity. Rock quality designations (RQD) and recovery percentages were also recorded. Intervals for measuring recovery generally did not correspond to assay intervals.





Fifty-four holes had lithology relogged during 2012, before the cutoff date for the April 6th 2012 database. Relogging generally focused on drill holes drilled during 2011 and 2012 whose lithologic interpretation did not fit well with nearby holes. All drill cores are photographed.

10.4 COLLAR SURVEYS

Drill hole collars were initially surveyed using differential GPS. During consolidation of the data for modeling in 2005–2006, a 3.8 m bias between the collar elevations and the contour mapping was found. In 2006, a Total station survey was used to pull in new control from known control points. The collar elevations of the old holes were then resurveyed using the Total station. All subsequent 2006–2008 drill holes were surveyed using the Total station instrument. The existing contour mapping was also adjusted to correct for an error that was identified in one of the geodetic survey monuments used to produce the contour mapping.

Additional re-surveying of collars for 244 holes was performed in 2012 using differential GPS. These were performed on the majority of drilling performed in 2010-2012 (TMP and DPV holes)

10.5 DOWNHOLE SURVEYS

Several different down hole survey techniques and devices have been used to measure down hole azimuth and dip (Table 10-2). During the 2006 program readings of azimuth and dip were collected at 50 m intervals down-hole. Teck noted that some difficulties were encountered with the Reflex instrument in areas where there is significant magnetite or pyrrhotite (Teck Resources, 2008).

Year	Instrument
2000	Sperry Sun
2001	Tropari, acid tube
2002	Acid tube
2003	Acid tube
2004	Acid tube
2006	Reflex and minor acid tube
2007	Reflex and minor acid tube
2008	Reflex and minor acid tube
2010	Reflex
2011	Reflex
2012	Reflex

Table 10-2: Downhole Survey Instrumentation used by Year





Drill holes from the 2007–2008 drill period used a Reflex instrument in areas with insignificant magnetite or pyrrhotite mineralization on 50 m down the hole increments. In areas of high magnetite or pyrrhotite, only an acid etch was used to record dip orientation on 50 m increments. The azimuth recorded at drill collar was used at the down hole survey location.

AMEC reviewed azimuth deviations from Reflex[®] instrument measurements in low magnetic areas and is of the opinion that down hole azimuth deviations are relatively minor and do not pose an issue with regards to confidence in intercept location.

10.6 RC AND CORE RECOVERY

Poor RC recovery was noted when drilling through fault zones. The RC drilling was discontinued on the El Limon and Guajes zones in 2002 and has only been used as an exploration tool on other targets since.

Core recovery is recorded and is generally 99% to 100% with the exception of minor faulted and oxide zones. Recovery data were not available for all core holes, most notably in older Teck drill holes.

10.7 DEPOSIT DRILLING

Drill spacing across the deposits that have mineral resources estimated is at about 35 m x 35 m in areas with close-spaced drilling, widening to about 60 m x 60 m in the areas that are less well drilled. Drill spacing is wider again in the areas outside the conceptual pit outlines used to constrain mineral resources.

Drill hole orientations range from 0° to 345°, and were illustrated in Figure 10-1 and Figure 10-2 for El Limon and Guajes, respectively. Dips are typically 70°. Hole depths range from 3.05 m to 672.6 m and average 165 m.

Drill holes that orthogonally intersect the mineralized skarn will tend to show true widths. Drill holes that obliquely intersect the mineralized skarn will show mineralized lengths that are slightly longer than true widths. A majority of the drill holes at the Project have been drilled obliquely to the skarn mineralization.

Example drill intercepts for El Limon and Guajes are summarized in Table 10-3, and are illustrative of nature of the mineralization at El Limon and Guajes. The example drill holes contain oxide and sulphide intersections and areas of higher-grade in lower-grade intervals.





Table 10-3: Selected Drill Hole Intercept Summary – El Limon, Guajes East and West Deposits

Deposit	Hole ID	From (m)	To (m)	Drill Intercept Interval (m)	Gold Grade (Au g/t)	Silver Grade (Ag g/t)
El Limon	DLIM-281	30.5	56.0	25.5	1.28	10.6
		83.2	152.3	69.1	5.57	7.2
	incl.	111.0	118.0	7.0	17.87	17.8
	incl.	149.0	149.9	0.9	30.53	8.5
		199.5	209.0	9.5	4.10	6.8
	TMP-1396	0	31.93	31.93	3.05	13.9
	incl.	13.7	16.4	2.7	5.32	10.6
		44.63	47.96	3.33	0.98	4.5
Guajes East	T10-106C	4.5	6.6	2.1	1.22	4
		26	27.5	1.5	0.53	1
		53.1	91.0	37.9	4.87	21.1
	incl.	55.16	60.96	5.8	20.71	6.5
		119	122	3.0	0.83	1
	DLIM-520	8.8	10.0	1.2	1.38	2.6
		58.0	96.7	38.7	3.56	17.1
	incl.	77.8	79.2	1.4	19.33	133.7
Guajes West	TMP-1196	74.86	153.4	78.54	6.05	3.7
	incl.	92.38	99.0	6.62	16.25	7.8
	incl.	120.7	124.4	3.7	25.21	6.5
	DLIM-483	84.0	107.0	23.0	1.72	0.8

Note: Depending on the dip of the drill hole, and the dip of the mineralization, drill intercept widths are typically greater than true widths

10.8 COMMENTS ON SECTION 10

The AMEC QP is of the opinion that:

- Core logging meets industry standards for gold exploration.
- Collar surveys have been performed using industry-standard instrumentation.
- When available, recovery data from core drill programs are acceptable.
- AMEC recommends that any future RC drilling recoveries should be logged.





- AMEC considers the down hole surveying methods prior to 2006 to be out of date. Tropari is a magnetic method and is unreliable in magnetic rocks, which are common in skarn deposits and the acid tube method does not provide azimuth information.
- AMEC recommends surveying future drill holes with a non-magnetic survey tool such as a gyro or the Maxibor tool. Deep mineralized intercepts from existing drill programs should be used to support classification of Inferred Mineral Resources only, since there is significant uncertainty as to their location.
- Down hole survey vector analysis indicate that core drill holes with a total depth greater than 200 m, show an average drift of less than the dimensions of a mine block. AMEC is of the opinion that the missing downhole surveys do not degrade the level of confidence in the location of mineralization, for this level of study. However, all deep drill holes in the future should be appropriately surveyed.
- Drilling is normally perpendicular to the strike of the mineralization at Guajes East and West and a combination of perpendicular and non-orthogonal at El Limon. Depending on the dip of the drill hole, and the dip of the mineralization, drill intercept widths are typically greater than true widths.
- AMEC considers that drill orientations at El Limon and Guajes are appropriate for the mineralization style, and have been drilled at orientations that are optimal for the orientation of mineralization for the bulk of the deposit area.





11 SAMPLE PREPARATION, ANALYSES AND SECURITY

From project inception to the end of Teck's drilling programs in 2008, Teck staff members were responsible for the following:

- Sample collection
- Core splitting
- Delivery of samples to the analytical laboratory
- Sample storage
- Sample security.

From 2006 to 2009, Teck personnel were also responsible for sample preparation, specific gravity determination, and sample analysis. Teck at the time was project operator.

From 2010 to May 2012, Torex personnel were responsible for the following:

- Sample collection
- Core splitting
- Delivery of samples to the analytical laboratory
- Sample storage
- Sample security.

At no time has Torex been responsible for sample preparation (beyond core splitting), specific gravity determination, or sample analysis. These tasks have been completed by independent commercial laboratories throughout Torex's tenure as project operator.

11.1 ANALYTICAL LABORATORIES

Sample preparation and analytical laboratories used during Teck's exploration programs on the Project include ALS Chemex, Laboratorio Geologico Minero (Lacme), and Global Discovery Laboratory (GDL).

ALS Chemex was responsible for sample preparation during 2000–2001 through its nonaccredited sample preparation facility in Guadalajara, Mexico. Samples were dispatched to the Vancouver laboratory facility, which, at the time the work was performed, was ISO-9000 accredited for analysis. ALS Chemex is independent of Teck.

Lacme prepared samples during 2002–2004 at its sample preparation facility in Guadalajara, Mexico. Lacme is a subsidiary of Acme Laboratories Limited (Acme). At the time of sample preparation Lacme was independent of Teck. The preparation facility was not accredited.

In 2006, a sample preparation laboratory was set up on site at Morelos, under the supervision of Teck personnel. This preparation facility was not registered, and was operated by a contractor, independent of Teck.





Sample analysis from 2002 to 2008 was performed at the Teck-owned Global Discovery Laboratory (GDL), in Vancouver, Canada. GDL was not an accredited laboratory at the time the analyses were performed.

In 2005, Acme in Vancouver, Canada performed check assays of approximately 10% of the samples from the 2000-2001 Teck drilling campaigns that were assayed originally by ALS Chemex.

Torex drill samples were sent to the SGS laboratory in Nuevo Balsas, Guerrero, Mexico, where the samples were dried, crushed, and pulverized. Prepared sample pulps were then sent to the SGS laboratory in Durango, Mexico for analysis. The SGS laboratory in Durango is ISO 17025 accredited, and is independent of Torex.

11.2 SAMPLE PREPARATION AND ANALYSIS

Drill and trench samples from the 2000 and 2001 Morelos drill campaigns were prepared by ALS Chemex. Samples were crushed to 60% passing 10 mesh prior to splitting a 300 g subsample which was pulverized to 95% passing 150 mesh. This quality of crushing is likely a limiting factor on the precision of gold results for this type of gold deposit.

The pulverized pulp sample was analyzed by ALS Chemex for gold using a 1 AT (Assay Ton, approximately 30 g of sample) fire assay with an atomic absorption (AA) finish. Samples returning assays greater than 10 g/t Au were assayed again using a 1AT gravimetric fire assay. Silver, arsenic, copper, and 31 additional elements were determined by aqua regia digestion Inductively Coupled Plasma – Atomic Emission Spectroscopy (ICP-AES).

Drill and trench samples from the 2002 through 2004 programs were sent to the Lacme sample preparation facility. Samples were dried and crushed to 70% passing 10 mesh prior to splitting a 300 g sub-sample which was pulverized to 95% passing 150 mesh.

The pulverized pulp samples were sent to GDL for assay. GDL assayed all samples for gold by 5 g (very rarely 10 g) aqua regia AA finish (10 ppb lower detection limit). Samples returning greater than 200 ppb Au were re-assayed using 1 AT fire assay AA. Gold assays greater than 10 g/t Au by fire assay AA were assayed again by 1 AT gravimetric fire assay. Silver, As, Ca, Fe, Mg, and 23 additional elements were determined by aqua regia ICP-AES. This very small sample mass is likely to produce highly imprecise gold results and has an increased probability of missing gold occurrences.

Once assay data were reviewed by Teck personnel, any intervals that returned less than 200 ppb Au but that fell within the mineralized skarn or oxide interval envelope were reassayed by 1 AT fire assay AA. This step mitigates most of the underweight initial assaying.

At the beginning of the 2006 program, a preparation laboratory was established in Nuevo Balsas. This preparation laboratory was set up by Teck, but was operated by a contractor independent of Teck, and was used for the 2006–2008 campaigns. Samples were dried and crushed to 85% passing 10 mesh prior to splitting a 300 g sub-sample. The sub-sample was pulverized to 95%





passing 150 mesh before shipment to GDL where the analytical methodology was the same as that described for the 2002–2004 programs.

Torex drill samples were prepared by SGS in Nuevo Balsas, Mexico. Samples were dried and crushed to 75% passing 2mm prior to splitting a 500g sub-sample. The sub-sample was then pulverized to 85% passing 75microns. Samples were then dispatched to the SGS laboratory in Durango, Mexico, and assayed for gold by 30g fire assay AA. Samples reporting over 10 g/t Au by fire assay AA were reassayed by 30 g gravimetric fire assay. Silver, As, Ca, Fe, Mg, S, and 26 other elements were determined by aqua regia ICP-AES. Samples reporting over 10 g/t Ag were reassayed by a three-acid digestion followed by AA finish. In rare cases, samples reporting over 300 g/t Ag by the three-acid method were reassayed by 30g gravimetric fire assay.

11.3 QUALITY ASSURANCE/QUALITY CONTROL PROGRAMS

11.3.1 Teck Drilling Programs

The QA/QC program for the first two Teck drill campaigns (2000 and 2001) relied on the internal quality control of ALS Chemex. Upon AMEC's recommendation, Teck submitted approximately 10% of the pulps assayed by ALS to Acme in Vancouver, Canada for check assays. These were restricted to intervals in mineralized zones.

Starting in 2002, an external QA/QC program was initiated by Teck personnel. This program consisted of inserting two standards and four blanks in the project sample stream with each drill hole submittal. In 2003, the program changed to include 5% blanks, 5% field duplicates, and 10% certified reference materials (CRMs).

Because of the good results from the 2003 program, the number of insertions in the 2004 QA/QC program was reduced to 2% blanks, 2% field duplicates and 5% CRMs.

The 2006–2008 QA/QC programs consisted of the insertion of 5% CRMs, 5% blanks and 5% field (core) duplicates. The preparation laboratory inserted 5% coarse crush duplicates and laboratory replicates were used as pulp duplicates.

11.3.1.1 Certified Reference Materials

From 2002 to 2004, two CRMs sourced from WCM Minerals of Burnaby, British Columbia, Canada were inserted into submissions at the site. The insertion rate was approximately five percent and the position was randomized. AMEC reviewed the data from these submissions and found that the GDL gold assays from these campaigns are of acceptable accuracy.

Two different CRMs were prepared in 2006 from matrix-matched material taken from the property and processed as CRMs by CDN Resource Laboratory. CDN Resource Laboratory, based in Vancouver, British Columbia, is a reputable maker of CRMs.





11.3.1.2 Blanks

Blank samples from 2002 to 2004 were generated from RC reject samples of barren marble from early exploration drill holes at Morelos. During this period, 47 (10%) of the 462 gold assays of blank samples reported values greater than the detection limit (10 ppb). Teck reassayed select blank samples and found that there is sporadic gold in the Media Luna marble unit, so it was discontinued as a source of blank material.

For the initial portion of the 2006 program, blank material was sourced from RC cuttings that were considered to be unmineralized. During this period, 13 (11.2%) of the 118 blanks inserted returned values greater than detection, suggesting that some of this material contained very low but detectable levels of gold and was unsuitable as a blank.

For drill programs post June 2006, blank material was sourced from a barren limestone outcrop located between Iguala and the project site. This blank material has shown good performance.

11.3.1.3 Duplicates

AMEC reviewed the 2002 to 2004 pulp duplicate programs and found that the precision of GDL gold assays is marginal, but acceptable for a gold skarn deposit with coarse gold. Ninety percent of pulp duplicate agree within 30 percent or less.

AMEC reviewed the 2002 to 2004 quarter core duplicate data and found there to be significant sampling variability. Average gold assays for the duplicate datasets were comparable but the relative difference (pair difference/pair mean) observed for a large proportion of individual pairs was large. AMEC considers the quarter-core duplicates at Morelos to have poor sampling precision. This is indicative of a "nugget effect" that cannot be easily remedied, except by collecting larger sample masses (e.g. larger diameter core, or RC drilling which may introduce other sampling problems).

From 2006, core, coarse crush, and pulp duplicates were used to determine the assay precision at the various stages of sample preparation. A core or field duplicate, which consisted of the second half of the core, was inserted randomly for each 20 samples. The coarse crush duplicate, which consisted of a second 500 g split of the coarse reject material, was inserted by the preparation laboratory every 20^{th} sample. The pulp duplicates were the laboratory replicate analysis as reported by GDL as internal QA/QC.

11.3.1.4 Check Assays

The QA/QC program for the first two Teck drill campaigns relied on the internal quality control of ALS Chemex. Upon AMEC's recommendation, Teck submitted 139 intervals from the mineralized zones to Acme in Vancouver, Canada for check assays. The 10 standards, 10 blanks and 10 duplicates submitted with the check samples all passed QA/QC. The Acme gold check assays indicate that the original ALS Chemex gold assays are acceptably accurate.





Teck check assays on 2002 to 2004 GDL original gold assays by ALSChemex, Assayers, and ACME, all of Vancouver, Canada, show a minor low bias in the GDL assays of between two and eight per cent.

11.3.2 Torex Drilling Campaigns

Torex utilizes a program of CRMs, blanks and duplicates to control assay quality for its drilling campaigns. In 2012, Torex also completed a check assay program, designed primarily to determine the accuracy of the SGS silver assays.

11.3.2.1 Certified Reference Materials

Torex uses nine different CRMs to monitor gold assay accuracy. All CRMs were sourced from CDN Resource Laboratories in Langley, British Columbia, Canada. The CRMs cover the expected grade range, from 0.3 to 5.3 g/t. CRMs are inserted at a rate of 1 per 20 project samples.

AMEC evaluated 2,749 CRMs assayed by SGS from 2010 to March 2012 and found no significant bias in the SGS gold assays.

11.3.2.2 Blanks

Blanks are inserted at a rate of 1 each for every 20 project samples. Out of a total of 2,982 blanks assayed for gold, only 25 (0.8%) reported values greater than 10 times the lower detection limit of 0.005 g/t.

11.3.2.3 Duplicates

AMEC reviewed the Torex duplicate data and found there to be significant sampling variability in the quarter core and pulp duplicate results. AMEC considers assay precision to be acceptable for field duplicates where 90% of the duplicate pairs display less than $\pm 30\%$ absolute relative difference (ARD), calculated as the absolute value of the pair difference in grade, divided by the pair's mean grade. The calculated precision of the quarter core duplicate pairs was 95% ARD, and the precision of the pulp duplicate pairs was 75% ARD (both precision estimates at the 90th percentile).

These poor precision levels are most likely the result of coarse gold in the samples and the inadequacy of the sample preparation scheme to generate a homogeneous sub-sample for assay. The poor precision of the pulp duplicates indicates a large gold particle size is likely present in many samples, and that more reproducible results would require a larger fire assay mass, achieved either by screen fire assay or by multiple fire assay charges. A very slight improvement might be achieved by increasing the fire assay mass from 30 to 50 g. The possibility of large gold particles in many samples indicates that gravity extraction may be an effective part of the mineralized material processing for this project.





11.3.2.4 Check Assays

A total of 300 assay intervals were submitted for gold check assay, and 1,027 assay intervals were submitted for silver check assay at Acme in Vancouver, Canada. The mean of the SGS gold assays was 2.50 g/t compared to a mean of 2.53 g/t for the Acme gold assays. The mean of the SGS silver assays was 2.98 g/t compared to a mean of 3.26 g/t for the Acme silver assays. No significant bias was observed in the original SGS gold and silver assays.

11.4 DATABASES

Entry of information into databases utilized a variety of techniques and procedures to check the integrity of the data entered. During the 2000 to 2005 period, geological data were entered into spreadsheets in a single pass by Teck personnel. From 2006 through 2009, all geological data were entered electronically directly into the system without a paper log step.

Assays were received electronically from the laboratories and imported directly into the database.

Drill hole collar and down hole survey data were manually entered into the database.

Paper records were kept for all assay and QA/QC data, geological logging and bulk density information, downhole and collar coordinate surveys. All paper records were filed by drill hole for quick location and retrieval of any information desired. Assays, downhole surveys, and collar surveys were stored in the same file as the geological logging information. In addition, sample preparation and laboratory assay protocols from the laboratories were monitored and kept on file.

From 2010 to 2012, Torex has maintained the exploration data in a series of Microsoft Excel spreadsheets, and these data were periodically loaded into a Microsoft Access database. During AMEC's audit work in 2011, a high incidence of data-entry errors was observed in the collar location and assay records. In 2012, Torex systematically corrected the collar and assay data and implemented a new system of data entry to ensure that these errors are no longer introduced.

11.5 SAMPLE SECURITY

Sample security was not generally practiced at Morelos during the drilling programs, due to the remote nature of the site. Sample security relied upon the fact that the samples were always attended or locked at the sample dispatch facility. Sample collection and transportation have always been undertaken by company or laboratory personnel using company vehicles.

Prior to 2002, drill and trench samples were picked up at site by ALS Chemex, prepared to a pulp in Guadalajara, Mexico, and sent by ALS Chemex via air to the ALS Chemex analytical laboratory in Vancouver, Canada. Starting in 2002, samples were delivered by Teck personnel to the Lacme sample preparation laboratory in Guadalajara, Mexico, prepared to a pulp by Lacme, and then shipped by Lacme to the GDL analytical laboratory in Vancouver, Canada.





Chain of custody procedures consisted of filling out sample submittal forms that were sent to the laboratory with sample shipments to make certain that all samples were received by the laboratory.

Torex continued with the Teck sample security procedures, bringing the core boxes from the drill rig to the core logging facility once per day. Core is logged, sample intervals are marked by the geologist, and then the core is cut and bagged. Bagged core is delivered to the sample preparation facility by MML staff. The sample dispatch facility is always attended or locked.

11.6 SAMPLE STORAGE

Coarse rejects and pulps from the 2003 through 2008 programs are all stored at a secured warehouse in Nuevo Balsas.

Drill core is stored in wooden core boxes on steel racks in the buildings adjacent to the core logging and cutting facilities. The core boxes are racked in numerical sequence by drill hole number and depth.

Coarse rejects in plastic bags are stored in cardboard boxes on steel racks in a separate locked building. The coarse reject boxes are labeled and stored by sample number.

The assay pulps were returned from Vancouver from time to time. GDL stored all pulp samples by job and sample number for approximately one year. Upon returning them to Nuevo Balsas, the pulps were stored in cardboard boxes in the coarse rejects storage building. Stored coarse rejects and pulps are in good condition.

Torex maintains this program, storing drill core, coarse rejects, and pulps in a secured warehouse in Nuevo Balsas.

11.7 COMMENTS ON SECTION 15

The AMEC QP is of the opinion that the quality of the gold and silver analytical data is sufficiently reliable to support Mineral Resource estimation and that sample preparation, analysis, and security are generally performed in accordance with exploration best practices and industry standards as follows:

- Sample preparation and analysis for samples that support Mineral Resource estimation has followed a similar procedure since 2001. The preparation and assay procedures are in line with industry-standard methods for gold deposits.
- The exploration database accurately reflects the original records.
- Sample security has relied upon the fact that the samples were always attended or locked in the on-site sample preparation facility. Chain-of-custody procedures consist of filling out sample submittal forms that are sent to the laboratory with sample shipments to make certain that all samples are received by the laboratory.





12 DATA VERIFICATION

AMEC performed a number of verification checks in support of the mineral resource estimate.

12.1 AMEC 2005

During an audit of the project to support mineral resource estimation in 2005, AMEC reviewed the geological database. Approximately 10% of the drill holes at Morelos were checked. AMEC compared logged lithologies, collar and down-hole surveys and assays in the digital database against original source documents. A total of 13 drill holes from the El Limon area and six from the Guajes area were reviewed. Gold, silver, arsenic, and copper assays in the database were checked against the original paper assay certificates. Lithological logging in the database was checked against the original paper lithology logs. Collar and down-hole surveys in the database were checked against the surveys recorded on the drill logs. In AMEC's opinion, the digital database at the time was representative of the available project exploration data and was sufficiently free from error to support mineral resource estimation.

At site, AMEC also selected five drill holes at random to review logging and sampling practices and to visually inspect mineralized intervals. Two holes were selected from Guajes and three from El Limon. In general, AMEC found logging practices to meet industry standards, and that drill logs were well collected and representative of the core inspected.

12.2 M3 MEXICANA, 2008

Teck Cominco used built-in checks in the acQuire[®] database to monitor analytical results. The checks identified any CRM or blank failures. CRM failures were considered to be any value that fell outside three standard deviations or any two consecutive standards in a laboratory job that fell outside two standard deviations. If a standard failed, the laboratory was required to repeat the fire assays for all samples between the previous acceptable CRM assay to the following acceptable CRM assay.

Fifteen (1.5%) of the 999 CRMs inserted over the period May 2006 to May 2007 failed. These failed CRMs and the associated primary samples were re-assayed and subsequently passed. This frequency is consistent with the described control limits.

From June 2006 to May 2007, 13 (1.5%) blanks returned values above detection limit. In the three highest cases, the failure occurred immediately after samples which contained greater than 10 g/t Au indicating contamination in the preparation stage. In each case, an investigation was carried out at the preparation laboratory and the laboratory was directed to take greater care in cleaning the pulverisers between samples.

Core, coarse crush and pulp duplicates data for the period May 2006 to May 2007 were reviewed. The core duplicates showed a wide scatter, reflecting the inherent geological variability associated with a gold skarn deposit. The coarse crush duplicates showed somewhat less scatter. The laboratory repeats or pulp duplicates showed reasonable reproducibility.





At the beginning of the 2006 program, the Teck Cominco sample preparation protocol was changed in order to reduce the sampling error. The crushing was improved so that the percentage passing 10 mesh at the crushing stage was increased from 70% to 85%. Although Teck Cominco considered that the sampling error could be further reduced by crushing finer or by pulverizing a larger sample, practical considerations prevented this. Teck Cominco was of the opinion that the crushing practice was finer that what most commercial laboratories used at the time.

12.3 AMEC 2009

Torex provided AMEC with a Microsoft Access[®] database containing all drilling information on the Morelos property.

AMEC checked the Torex database by requesting the assay laboratory load assay certificates directly to an ftp site provided by AMEC. From the 63,543 assay intervals in the Torex database, AMEC selected 2,309 intervals at random and compared certificate values to the database values. Of the 2,309 values checked, by relating the database assay table to a certificate assay table in Access[®], only four intervals were found with errors. AMEC found the assay data acceptable to use for resource estimation.

Approximately 10% of the drill hole logs drilled at Morelos since 2005 were checked for data transfer errors. AMEC compared logged lithologies and collar and down-hole surveys in the digital database against original source documents. Forty two core drill holes were selected, 23 from the El Limon area and 19 from the Guajes area.

Lithological logging in the database was checked against electronic scans of the original paper lithology logs. Collar and down-hole surveys in the database were checked against the surveys recorded on the drill logs.

In AMEC's opinion, the digital database is representative of the available project exploration data and is sufficiently free from significant error to support mineral resource estimation.

AMEC noted that there was more than a 3% disagreement as to type of skarn on the original drill log when compared to what skarn type is recorded in the digital database. For grade interpolation, AMEC grouped all skarn types into a single domain and therefore this discrepancy does not have a material impact on mineral resource estimation.

At site, AMEC also selected ten drill holes at random to review logging and sampling practices and to visually inspect mineralized intervals. Five holes were selected from Guajes and five from El Limon. AMEC found logging practices meet industry standards, and that drill logs are sufficiently complete and generally representative of the core inspected. Three minor lithology calls were noted to be inaccurate but are not significant to mineral resource estimation.

12.3.1 Independent Verification of Mineralization

AMEC selected seven quarter-core sample intervals from half core and collected three chip samples from mineralized outcrop (one from Guajes and two from El Limon) to confirm the





presence of gold mineralization. Upon collection, samples were under the custody of Mr. Orbock, who personally delivered the samples to ALS-Chemex's laboratory facilities in Sparks, Nevada. The samples were fire assayed with an atomic absorption or gravimetric finish.

Assay results are listed in Table 12-1. AMEC considers quarter-core duplicates in a gold skarn deposit to have poorer sampling precision when compared with half core, and that significant variability in assay grades should be expected. The level of agreement obtained in Table 12-1 is on par with that observed for the field duplicates (re-sawn quarter core) that were routinely included in drill sample submissions. The AMEC values confirm the presence of gold mineralization at the project, and confirm that high gold grades can be expected.

Sample ID	From	То	AMEC 2009 g/t Au	Teck Assay Database g/t Au
DLIM-186	112.3	113.5	26.10	41.03
DLIM-227	166.5	168.0	1.74	1.38
DLIM-283	28.0	29.5	5.25	5.84
DLIM-336	110.5	112.0	23.80	21.70
DLIM-357	107.5	109.1	1.24	1.48
DLIM-391	231.6	232.4	6.25	6.00
DLIM-427	131.0	132.5	11.15	8.26
El Limon Oxide A	outcrop		2.99	
El Limon Oxide B	outcrop		1.61	
Guajes West Skarn	outcrop		0.15	

 Table 12-1: AMEC's Check on the Presence of Gold Mineralization

12.4 AMEC 2012

In April 2012, AMEC performed an audit of the Morelos project information added to the database since the previous AMEC audit in 2009. The audit consisted of checking the database records against the original documentation for the collar surveys, downhole surveys, lithology logs, and assays for approximately 10% of the drill holes completed by Torex on the Project in 2010, 2011, and 2012, including all T10, DPV, and TMP series drill holes through TMP-1430. The purpose of the audit was to ensure that the drilling information was accurately entered into the database and that the data are acceptably accurate to support resource estimation.

A total of 56 drill holes were selected randomly for the audit, and the original records were requested of Torex for these drill holes. The effective date of the drilling data used for the resource estimates was 6 April 2012, and AMEC used the 6 April 2012 version of the database for its audit.

AMEC initially found a high incidence of data-entry errors in the collar locations and assays, and therefore Torex rebuilt the collar and assay information from the original documentation.





AMEC's audit of the rebuilt database found very few data-entry errors and therefore finds the database to accurately represent the drilling information and be acceptable to support resource estimation. Out of a total of 168 drill hole collar location values (easting, northing, and elevation values for 56 drill holes) checked, no data-entry errors were found. From the 280 downhole survey values checked, only four errors were found, for an error-rate of 0.5%. Three errors were found in the 688 lithology records checked, for an error-rate of 0.1%. And of the 11, 486 assay values checked, only two errors were found for an error-rate of 0.02%

12.5 COMMENTS ON SECTION 12

The process of data verification for the project was performed by AMEC and third-party consultants employed by Teck Cominco. The AMEC QP considers that a reasonable level of verification has been completed, and that no material issues would have been left unidentified from the programs undertaken.

The data verification programs undertaken on the data collected from the project adequately support the geological interpretations, the analytical and database quality, and therefore support the use of the data in Mineral Resource estimation.

Sample data collected appropriately reflected deposit dimensions, true widths of mineralization, and the style of the deposits. Drill data were typically verified prior to Mineral Resource estimation by running a software program check. Database verification indicated an appropriately clean database, with few errors.





13 MINERAL PROCESSING AND METALLURGICAL TESTING

13.1 GENERAL

Sample preparation and characterization, grinding studies, gravity concentration tests, flotation tests, leach tests, slurry settling tests, and tailing treatment tests were completed to determine the metallurgical response of the mineralized material. Samples of mineralized material for metallurgical testing were collected by both Teck Cominco Corporation and Torex. Drill core from exploration drilling was sampled and used for metallurgical testing. Each drill hole has been identified by number and location within the mineralized area. The selection of drill core has been made with the usual standard of care so that the samples submitted for testing represent all the mineralized rock types within the mineralized area. Drill core in core boxes. The dry climate in the storage area and the drill core being stored in larger sized pieces are considered to be mitigating factors in samples having experienced significant oxidation or weathering while in storage.

The metallurgical test programs have been completed by independent commercial metallurgical laboratories. Recent work has been on the validating and increasing the knowledge of gold recoveries with a focus on developing grade versa recovery curves for the mineralized material types identified. The results of the test work indicate that there are not any deleterious elements present in sufficient quantity that would have a significant impact on processing the mineralized material. The test results indicate that gold associated with sulfides and very fine sized gold particles associated with silica gangue particles are considered to be the primary cause of lower gold extraction rates in some of the mineralized material.

The test work indicates that the mineralized material will respond to direct agitated cyanide leaching technology to extract gold. The results of these test programs are available in the following reports:

- 1. International Metallurgical and Environmental Inc., Kelowna, British Columbia, Canada, March 22, 2002, Morelos North Project, Preliminary Metallurgical Report, Scoping Laboratory Cyanide Leach, Flotation & Gravity Test Work Results.
- G&T Metallurgical Services Ltd., (G&T), Kamloops, British Columbia, Canada, November 13, 2003, Los Morelos Ore Hardness and Cyanidation Test Results – KM1405.
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The metallurgical test results were used to develop process design criteria and the flow sheet for processing the mineralized material.

13.2 METALLURGICAL TESTING

Preliminary scoping testwork was carried out by International Metallurgical and Environmental Inc. in March 2002. Preliminary grinding, cyanide leaching, flotation and gravity concentration tests were carried out on seven composite samples of mineralized material identified as: Mostly Oxide, Hornfels, Mixed Hornfels, Hornfels and Pyroxene Prograde, Mixed Prograde, High Sulphide Prograde with Intrusive, and Mixed Prograde.

Grinding: Comparative Bond's Work Index tests were carried out on each composite sample. The work index ranged from a low of 10.7 kWh/t for the relatively soft oxide composite to over 25 kWhr/t for the more competent composite samples. Several composite samples were outside the calibration range of the procedure used and it was recommended that full Bond Work Index tests be carried out during the next phase of work.

Gravity: Single stage Knelson gravity concentration tests were carried out on each of the composite samples after grinding to 80% passing 74 microns. The tests showed an average of about 7% of the gold was recovered to a 0.5% by weight cleaner concentrate.





The highest gold recovery (14.4%) achieved through gravity concentration testing was from the high sulphide prograde (RLIM-18A) composite sample. The inclusion of a gravity concentration stage in the flowsheet was not indicated.

Flotation: A scoping bulk sulphide flotation test was carried out on the high sulphide prograde (RLIM-18A) composite sample. The test results indicated a gold recovery of 90% to a 10% by weight concentrate containing 41 g/t gold. The test products were leached in sodium cyanide for gold extraction. The rougher concentrate leach resulted in a gold extraction of 86.2% for a combined gold extraction of 77.6% (compared to 83.5% whole mineralized material leach extraction). The flotation tailing leach extracted 55.8% of the gold in the tailing but only represents 5.6% of the gold in the flotation feed.

Cyanidation: Each composite sample was subjected to two whole mineralized material cyanide leach tests at different grind sizes. Gold extraction ranged from the mid-60% to mid-80% range (average 76%) for samples ground to approximately 80% passing 150 microns. For samples ground to approximately 80% passing 75 microns, the gold extraction ranged from the high 70% to low 90% range (average 86%). These results indicate that finer grinding benefits the gold extraction. The best result was from the oxide mineralized material composite sample which gave 95% gold extraction at a moderate (80% passing 90 microns) grind.

Development testwork was carried out in two phases by G&T Metallurgical Services in 2003 (KM1405) and 2004 (KM1557). Phase 1 was carried out on 11 composite samples of mineralized material from El Limon and Guajes and Phase 2 was carried out on 6 composite samples of mineralized material from Guajes West.

Composite Samples: A summary of the composite samples prepared and the head assays of each are presented in the Table 13-1.





	Interval Length (m)	Grade g/t Au
El Limon	0	
Hornfels	44.4	2.42
Oxide (fault)	83.5	3.21
Oxide (surface)	61.0	8.41
Prograde Garnet (North)	31.9	1.09
Prograde Garnet (South)	27.3	3.04
Prograde Pyroxene (North)	44.9	5.70
Prograde Pyroxene (South)	43.8	3.36
Retrograde	39.0	6.11
Guajes East	860.1	
Massive Sulphide	16.9	0.82
Prograde	38.2	4.99
Retrograde	38.8	9.79
Guajes West	383.1	
Prograde Pyroxene	178.3	4.47
Prograde Garnet	90.3	2.15
Retrograde	24.7	7.92
Intrusive	44.6	1.22
Breccia	38.0	2.48
Breccia with Copper	7.2	39.70

Table 13-1: Development Testwork Composite Samples

Grinding: Bond ball mill work index testing was carried out on several of the composite samples. The results of this work are presented in Table 13-2.





	Work Index
Composite Sample	kWh/tonne
El Limon	
Hornfels	22.8
Oxide Fault	15.0 *
Oxide Surface	13.4
Prograde Garnet North	16.9
Prograde Garnet South	17.2
Prograde Pyroxene North	16.0
Prograde Pyroxene South	16.0
Retrograde	13.0
Guajes East	
Massive Sulphide	16.1
Prograde	14.9
Retrograde	12.6 *
Guajes West	
Prograde Pyroxene	15.4
Prograde Garnet	15.4
* Estimate only – stability n	ot attained

Table 13-2: Bond Ball Mill Work Indices

Cyanidation: Bottle roll cyanidation leach tests were completed on each of the composite samples at two different grind size distributions, approximately 80% passing 75 microns and 80% passing 50 microns. The primary findings from this series of leach tests are:

- Gold extraction improves with finer grinding
- Oxide, intrusive and hornfels leach quickly to mid-90% range of gold extraction
- Gold extraction from prograde skarn was indicated to be in the high 80% to low 90% range
- Garnetiferous and pyroxenitic prograde skarns were indicated to perform similarly
- Gold extraction from retrograde skarn was indicated to be somewhat lower and variable
- Gold extraction from breccia mineralized material was indicated to be poor
- Silver extraction for all composite samples of mineralized material was indicated to be in the range of 30 to 40%. The results from this work are presented in Table 13-3.





	Coarse	Grind	Fine Grind		
Composite Sample	Grind (microns)	Au Ext) (%)	Grind (microns)	Au Ext (%)	
El Limon					
Hornfels	73	84.6	49	87.9	
Oxide (fault)	69	90.8	38	94.2	
Oxide (surface)	76	91.9	45	94.3	
Prograde Garnet (North)	73	92.0	51	93.2	
Prograde Garnet (South)	62	87.8	52	91.2	
Prograde Pyroxene (North)	65	90.8	46	93.1	
Prograde Pyroxene (South)	67	89.4	52	87.5	
Retrograde	61	85.0	25	89.0	
Guajes East					
Massive Sulphide	60	33.2	40	35.6	
Prograde	71	88.1	51	88.7	
Retrograde	55	87.5	50	92.4	
Guajes West					
Prograde Pyroxene	75	89.7	50	92.1	
Prograde Garnet	75	77.8	50	79.6	
Retrograde	75	79.8	50	83.2	
Intrusive	75	87.4	50	93.3	
Breccia	75	49.2	50	53.1	
Breccia with Copper	75	85.7			

Table 13-3: Gold Extraction Results

Gold extraction from the Guajes West breccia and Guajes East massive sulphide composite samples was lower than from the other composite samples, so a number of additional tests were carried out to diagnose the problem and/or develop a flowsheet that would recover more of the gold.

- Diagnostic leach tests using sequential leaching with cyanide, acetic acid and aqua regia did not shed much light on why the gold did not leach.
- Leach tests on samples ground to 80% passing 30 microns showed that the recovery continued to improve with finer grinding.
- Leach tests were performed with elevated cyanide concentration with little improvement.





- Carbon-in-leach tests were performed with little improvement.
- Flotation test were performed with little improvement.
- Gravity concentration on the leach residue was unsuccessful.

It can be concluded from these test results that the gold in these mineralized material composite samples is extremely fine in size (probably sub-micron) and can only be extracted by ultra-fine grinding. Ultrafine grinding, although beneficial, does not appear to be economical to treat these relatively minor proportions of mineralized material.

Process design testwork was carried out by G&T Metallurgical Services in 2006 using composite samples prepared from the 2003 drilling. Drill core from the 2006 in-fill drill program was not available when the program was initiated.

Composite Samples: A summary of the composite samples prepared and the head assays of each are presented in the Table 13-4.

	g/t Au	g/t Ag	% Cu	% Fe	% S
El Limon Prograde	4.20	12	0.15	9.80	2.95
El Limon Oxide	5.43	6	0.15	12.30	0.43
El Limon Hornfels	2.40	2	0.06	2.22	0.93
Guajes Prograde	4.89	4	0.15	10.30	1.92

Table 13-4: Composite Sample Head Assays

Cyanidation – The majority of the work carried out in this phase of work comprised bottle roll cyanidation tests. A total of 60 tests were carried out to test the following parameters; grind, cyanide concentration, pH and aeration technique. Based on the testing, a standard test procedure was established that included grinding to 80% passing 65 microns, pre-aeration with air, and leaching with 800 mg/L cyanide concentration at pH 11.

Bulk Leach, CIP & Cyanide Destruction – Four large scale (10 kg) leach tests were carried out on two composite samples. After leaching, carbon was added to simulate the CIP circuit followed by cyanide destruction by the SO_2 /Air process. The leach residues were used for thickening tests, solution aging tests, and ARD kinetic tests.

The data presented in Table 13-5 compares the results of the standard 0.5 kg leach tests with the 10 kg leach tests.

Carbon loading tests were completed on both oxide and prograde composite samples to produce the information required for CIP modeling. The carbon concentration used in these tests was 0.5 g/L and the test results indicated that high carbon loadings of 4,500 g/t gold plus 1,350 g/t silver were possible.





Preliminary SO_2 –Air cyanide destruction tests using sodium metabisulphite reduced the CN_{WAD} concentration to less than 1 mg/L.

		Prograde Skarn		Oxi	de
		0.5 kg tests	10 kg tests	0.5 kg tests	10 kg tests
Head	Au (g/t)	4.25	4.36	3.30	4.87
Residue	Au (g/t)	0.41	0.36	0.32	0.32
Extraction	Au (%)	90.5	91.7	90.5	93.5
CN Cons.	Kg/t	2.2	2.6	1.1	1.8

Table 13-5: Leach Test Results

Gold Deportment Studies – Gold deportment studies were done on three composite samples; the El Limon prograde skarn composite sample from this series and the Guajes West prograde garnet and breccia composite samples from the previous series. The gold deportment studies included large scale gravity concentration tests followed by mineralogical studies on the gravity products. A diagnostic leach procedure was done on each of the two Guajes West composite samples.

The purpose of the gravity concentration tests was to produce concentrates for mineralogical studies but doing this work provided the opportunity to re-evaluate gravity concentration as a recovery option. Gravity concentration involved two stages; rougher concentration employing a Knelson concentrator and cleaning using a 'Superpanner'. Gold recovery to the rougher concentrate ranged from 6 to 19% while recovery to the cleaner concentrate ranged from 2 to 12%. Gravity results were poorest for the breccia composite sample in which only 2% of the gold was recovered to a 60 g/t concentrate. These tests confirmed the previous finding that the gravity concentrate process would not be appropriate for Morelos mineralized material.

Mineralogical studies were carried out on each product; gravity (pan) conc., cleaner (pan) tail and rougher (Knelson) tail, from each gravity test.

The breccia composite sample had the least recovery of material to the pan stage and the highest proportions of gold–bismuth telluride and gold–pyrite binaries. Poor cyanide leaching of these binaries could explain the lower gold extraction from the Guajes West breccia and higher gold extraction from the El Limon prograde.

Diagnostic leaches were carried out on the Guajes West breccia and retrograde composite samples. The gold extractions in each stage of the diagnostic leach procedure are presented in Table 13-6.





Stage	Solvent	Breccia	Retrograde
1	Cyanide	45	65
2	Acetic Acid/CN	7	17
3	Aqua Regia	3	17
	Total	55	99

Table 13-6: Gold Extraction Results

The 3 stage leach indicates the association of the gold; stage 1 extracts free gold, stage 2 extracts gold associated with labile sulphides, stage 3 extracts gold associated with sulphides and the remaining gold is assumed locked in silicates. The test results indicate that a significant portion of the gold in the breccia composite sample may be finely locked in silicate minerals. From the retrograde sample, there was significant extraction of gold in the first and second stages, indicating that a portion of the gold is associated with sulphides. The nearly complete extraction after the 3rd stage indicates little gold in silicates.

Variability testwork was carried out by G&T Metallurgical Services in 2007 using coarse rejects from the 2006 in-fill drilling program. The variability program was focused mainly on the breccia and retrograde mineralized material types which were not tested in the process design testwork.

Samples: Individual drill core intervals were used for most of this program rather than composite samples. Samples included the mineralized material types: retrograde, breccia, and prograde. Also tested were samples representing different ranges of copper and arsenic concentrations. The majority of the intervals used in the copper and arsenic composites included visible stringers of either massive copper sulphides or massive arsenopyrite. These samples represented extremes of copper and arsenic concentrations and are not representative of any substantial portion of the mineralized material.

Cyanidation: A single bottle roll cyanidation test was carried out on each of 57 samples. Each sample was ground to the nominal standard grind of 80% passing 60 microns and leached at pH 11 for 48 hours with 800 mg/L CN.

Retrograde Test Results – Leach extractions and residue grades were extremely variable from the retrograde tests. Gold extraction ranged from 16% to 95% and averaged 79%. Residues ranged from 0.12 g/t gold to 3.66 g/t gold and averaged 0.97 g/t gold. There are no apparent correlations between leach extraction and either geology or chemistry. The average gold extraction in these tests (79%) is somewhat lower than those found during the development testwork (84%).

Breccia Test Results – Leach extractions and residue grades were extremely variable from the breccia tests. Gold extraction ranged from 17% to 93% and averaged 69%. Residue grades ranged from 0.31 g/t gold to 5.29 g/t gold and averaged 1.48 g/t gold. No apparent correlations were found between leach extraction and either geology or





chemistry. The average extraction in these tests (69%) is higher than those found during the development testwork phase (49%) and appears to be due in large part to the difference in head grade (2.44 g/t gold vs. 4.7 g/t gold).

Prograde Test Results – Leaching was fairly consistent with all the prograde samples. Gold extractions ranged from 87.4 to 97.1% and averaged 93.6%. Residues ranged from 0.08 to 0.74 g/t gold and averaged 0.27 g/t gold. These results compare favorably with the average of the standard tests in the previous series which indicated 90.4% gold extraction and a 0.41 g/t gold residue grade from the same head grade.

Copper & Arsenic Sample Test Results – Extraction of gold from high copper materials does not appear to be problematic as long as there is sufficient cyanide in the leach. The three copper samples containing 4%, 1.5% and 0.3% Cu gave gold extractions of 91%, 84% and 82% respectively. The high copper sample consumed 8 kg/t cyanide and put 1238 mg/L copper into solution. Extraction of gold from the arsenic bearing samples was 53%, 71% and 63% respectively from samples containing 2.5%, 0.5% and 0.1% As. The test results indicate that there may be a weak correlation between residue grade and arsenic concentration.

In addition to the Bond's work index testing done on mineralized material composite sampless, a series of core intervals were sent to JKTech in Brisbane for grinding tests. An SMC test and a Bond ball mill work index test were done on each of 12 samples. The standard JKTech drop-weight test provides core specific parameters for use in the JKSimMet Mineral Processing Simulator software. These parameters are combined with equipment details to predict SAG/AG mill performance. The SMC (SAG Mill Comminution) test was developed to provide a cost effective means of obtaining these same parameters from drill core. The results of the SMC tests on the twelve samples from Morelos Gold Project are presented in Table 13-7.





Sample Designation	SG	Dwi	A	b	BM Wi (kWh/t)
El Limon – Prograde Pyroxene	3.17	9.5	66.4	0.50	17.1
El Limon – Prograde Pyroxene	3.11	10.5	60.5	0.49	20.4
El Limon – Prograde Garnet	3.48	9.6	63.5	0.57	14.6
El Limon – Prograde Garnet	3.38	9.3	69.7	0.52	16.2
El Limon – Marble	2.72	2.2	73.4	1.70	8.6
El Limon - Hornfels	2.98	7.3	70.6	0.58	28.8
El Limon - Intrusive	2.69	8.6	92.2	0.34	18.2
El Limon – Low Grade Skarn	3.42	9.6	61.4	0.58	16.4
Guajes West – Prograde Pyroxene	3.31	12.3	72.3	0.37	14.5
Guajes West – Prograde Garnet	3.56	5.6	61.7	1.03	15.5
Guajes West - Breccia	2.57	6.0	61.6	0.69	18.6
Guajes West – Low Grade Skarn	3.47	6.5	58.9	0.90	15.0

Table 13-7: SMC Test Results

The majority of DWi values in the SMC database lie in the range of 2 to 12; soft samples being at the low end of the scale and hard samples at the high end. The DWi results for the Morelos samples ranged from 2.2 to 12.3 and average 8.1. This places them in the 80^{th} to 90^{th} percentile of hardest samples in the SMC Testing data base. The work index values were similarly high.

Three sets of thickening tests were carried out; one by G&T Metallurgical Services and two by vendors (Outotec & GL&V). The tests done by the vendors were carried out on 10 kg samples prepared by G&T. The results of the tests by the two vendors gave similar results.

13.3 METALLURGICAL STUDIES ON COMPOSITE SAMPLES

METCON Research Inc. of Tucson, Arizona, was contracted to conduct metallurgical studies on composite samples representing the mineralized material types of the Morelos project in March 2011 to ascertain the recovery of gold and silver via cyanidation leaching and to increase mineralized material resource. Conventional cyanidation leaching, followed by Carbon-In-Pulp (CIP) gold recovery and cyanide detoxification with SO₂ was conducted on the composite samples from the Morelos project. Cyanidation leaching test conditions were the same as those used in the previous developmental tests which are listed below:

- Pulp pH = 10.5 to 11.0, using CaO
- Grind size of 80 percent passing 60 microns
- 48 hours leaching time at 45% solids, sampled at 2, 4, 8, and 24 hours.
- Sodium cyanide concentration at 800 mg/L.





At the end of leaching, 5.5 grams (3 g/L) of activated carbon was added to the pulp and agitated for maximum gold and silver adsorption at the same test conditions as cyanidation leaching. The cyanide destruction in the residue pulps was conducted simulating the Air/SO₂ process. 10 grams of SO₂ supplied from sodium metabisulphite was added for each gram of cyanide ion in the slurry and agitated vigorously for two hours at pH maintained between 9 and 10 with lime. Less than 2 ppm of cyanide was detected after 2 hours of detoxification in an agitated tank.

The metallurgical test results are summarized in Table 13-8 showing the head grade assays, gold and silver extractions, and reagent consumptions.



MORELOS GOLD PROJECT MINERAL RESOURCE STATEMENT



Tag #	Source	Material Description	Head G	irade	%Extr	action	Consur	nptions
			Au	Ag			NaCN	CaO
			g/t	g/t	Au	Ag	Kg/t	Kg/t
		Prograde Skarn	0.881	4.5	73.29	14.98	1.331	0.689
	Ellimon	Prograde Skarn	1.577	4.3	70.11	10.04	1.850	1.629
		Prograde Skarn	3.568	14.2	69.29	0.90	3.417	1.325
		Prograde Skarn	23.107	5.3	88.24	40.16	0.608	1.090
		Prograde Skarn	1.019	3.9	87.10	15.22	0.275	0.019
	Guaios East	Prograde Skarn	1.749	3.0	90.04	13.51	0.251	0.230
		Prograde Skarn	3.237	11.8	91.12	31.10	2.434	0.244
		Prograde Skarn	10.788	4.4	89.63	34.81	0.313	0.112
		Prograde Skarn	1.199	2.5	94.98	11.80	1.451	0.754
	Cupies West	Prograde Skarn	1.175	2.9	88.49	11.46	1.063	0.906
	Guajes west	Prograde Skarn	3.042	3.7	90.82	19.26	1.886	2.051
		Prograde Skarn	4.958	3.4	89.01	28.73	0.777	0.817
		Porphyry + Endoskarn	0.818	0.6	87.39	52.82	0.158	0.417
		Porphyry + Endoskarn	1.688	0.9	86.85	45.69	0.092	0.254
		Porphyry + Endoskarn	3.228	0.9	87.43	57.89	0.186	0.302
		Porphyry + Endoskarn	6.219	1.7	81.96	53.40	0.399	0.381
		Porphyry + Endoskarn	0.966	1.2	59.33	23.04	1.047	0.578
	Cupies Feet	Porphyry + Endoskarn	1.474	3.0	86.54	33.19	1.501	1.242
	Guajes East	Porphyry + Endoskarn	3.749	4.5	83.77	20.80	0.683	0.000
		Porphyry + Endoskarn	8.994	5.8	80.55	37.92	2.067	0.785
		Porphyry + Endoskarn	0.902	3.2	66.26	28.37	0.901	0.268
	Guajes West	Porphyry + Endoskarn	.628	1.1	96.92	54.78	0.183	0.254
		Porphyry + Endoskarn	2.854	3.2	75.74	40.31	0.683	0.575
		Porphyry + Endoskarn	6.450	4.2	90.61	32.93	0.810	0.451
		Oxides	0.977	7.2	77.39	68.15	0.641	4.13
	Filimon	Oxides	1.621	3.6	77.35	24.35	0.457	10.46
	ELIMON	Oxides	0.013	0.0				
		Oxides	6.709	3.6	80.63	41.99	0.662	4.98
		Oxides	1.375	4.2	80.79	50.71	0.71	3.19
	Guajes East	Oxides	1.880	8.8	75.37	73.40	0.91	3.74
		Oxides	28.922	4.1	87.18	56.75	0.47	2.68
		Retrograde Skarn	1.106	5.4	43.83	14.60	1.52	2.80
	El Limon	Retrograde Skarn	2.381	4.3	79.07	13.74	0.69	1.93
		Retrograde Skarn	1.797	2.4	83.89	21.26	0.67	2.00
		Retrograde Skarn	1.665	4.1	76.93	44.75	1.59	2.42
	Cupies West	Retrograde Skarn	2.317	4.6	76.89	41.18	1.92	3.63
	Guajes west	Retrograde Skarn	4.387	2.5	85.04	28.64	0.82	1.91
		Retrograde Skarn	23.665	22.3	31.76	7.85	3.59	3.27
		Retrograde Skarn	3.122	3.6	82.54	26.49	0.78	1.86
	Guajes East	Retrograde Skarn	3.211	6.9	77.38	43.23	0.96	3.60
		Retrograde Skarn	25.182	58.5	55.45	11.67	3.93	4.84
		Hornfels	0.644	2.3	91.15	52.49	1.019	1.30
	Cupies West	Hornfels	1.462	2.1	92.55	18.92	0.145	0.10
	Guajes west	Hornfels	1.461	1.2	96.01	31.27	0.173	0.32
]	Hornfels	12.296	10.7	89.46	43.20	0.792	0
		Breccia	0.809	1.2	14.14	15.53	0.848	1.16
	Guajes West	Breccia	1.554	2.0	76.79	21.24	0.731	1.07
		Breccia	29.660	50.0	58.63	1.99	3.861	2.87

Table 13-8: METCON Test Results

The data developed from the metallurgical study indicated that gold and silver are amenable to cyanidation leaching and recoverable by conventional CIP process.

13.4 LEACHING RECOVERY EVALUATION

Bottle roll cyanidation test results were used to evaluate the relationship between mineralized material grade and the percent gold extraction. A mathematical equation to describe that




relationship could then be developed and used to predict the percent gold extraction for a specified mineralized material grade. The test results from both the previous test programs and the recent test program conducted by METCON Research Inc. were compiled in a single database to analyze the data.

A graphical presentation of mineralized material grade versus percent gold extraction results for all the tests in the database is shown in Figure 13-1. The data points identified by a lighter color are results from the METCON Research program. The data points identified by a darker color are results from older test programs. Two trend lines have been drawn on the graph to describe the data. The first trend line describes data for mineralized material grades from 0 ppm to 0.39 ppm. The second trend line describes data for mineralized material grades greater than 0.39 ppm. The equations that describe the trend lines are also shown in the figure. Of main interest is the second trend line, for mineralized material grades greater than 0.39 ppm. The mineralized material grade versus percent gold extraction data has a correlation coefficient value (r) of 0.41 which represents a moderate correlation between the gold grade and the percent gold extraction and the equation describing the data has coefficient of determination (r^2) of 0.1677 which means that 17% of the data points are closest to the trend line described by the equation.



Figure 13-1: Au Head Assay Grade vs. Indicated Extraction Overall

Information from the May 4th Morelos Mine Measured and Indicated resource table was used to develop the Mineralized Material Type Distribution schedule presented in Table 13-9.





Mineralized Material Types	Guajes Mt	El Limon Mt	Total Mt	Percent of mineral body
Prograde (Skarn)	14.7	12.2	26.9	50%
Retrograde (skarn)	3.4	5.0	8.4	16%
Oxides (Oxide + Marble)	0.3	1.1	1.4	3%
Breccia	1.1	1.0	2.1	4%
Hornfels	1.7	9.2	10.9	20%
Porphyry + Endoskarn + Intrusive	0.5	3.5	4.0	7%
Total	21.7	32.0	53.7	100.00%

Table 13-9: Mineralized Material Type Distribution

Mineralized material grade versus percent gold extraction graphs were developed for the six mineralized material types identified and extraction equations predicting recoveries at given mineralized material grades were developed. Average gold grades for each mineralized material type were used in the extraction equations to calculate the percent gold extraction. Table 13-10 shows the predicted percent gold extraction for all the mineralized material types with an overall weighted average percent gold extraction of 87.33%. Weighted average percent gold extractions of 87.72% and 86.68% were predicted for El Limon and Los Guajes mineralized material types respectively.

Mineralized material Type	Average Au grade ppm	Extraction Equation	Extraction %
Guajes - Prograde (Skarn)	2.49	y= 2.2771*ln(x) + 87.057	89.13
Guajes - Retrograde (skarn)	3.13	y= 5.4671*ln(x) + 77.314	83.55
Guajes - Oxides (Oxide + Marble)	1.40	y= 3.1185*ln(x) + 82.235	83.28
Guajes – Breccia	2.44	y= 15.453*ln(x) + 48.282	62.07
Guajes – Hornfels	1.07	y= 90	90
Guajes - Porphyry + Endoskarn + Intrusive	0.73	y= 1.3912*ln(x) + 82.376	81.94
Guajes Subtotal	2.42	Weighted Average=	86.68
El Limon - Prograde (Skarn)	3.96	y= 2.2771*ln(x) + 87.057	90.19
El Limon - Retrograde (skarn)	4.24	y= 5.4671*ln(x) + 77.314	85.21
El Limon - Oxides (Oxide + Marble)	2.44	y= 3.1185*ln(x) + 82.235	85.02
El Limon – Breccia	3.50	y= 15.453*ln(x) + 48.282	67.64
El Limon – Hornfels	1.64	y= 90	90
El Limon - Porphyry + Endoskarn + Intrusive	1.81	y= 1.3912*ln(x) + 82.376	83.20
El Limon Subtotal	3.04	Weighted Average=	87.72
Total	2.79	Weighted Average=	87.33

Table 13-10: Weighted Average Extraction at Mine Plan Gold Grades





Analysis of the test results did not indicate a correlation between percent silver extraction and mineralized material silver grade, mineralized material gold grade, or percent gold extraction. Since no other silver extraction indicators have been identified at this time, it is recommended that the numeric average of the percent silver extraction for each mineralized material type be used to predict percent silver extraction. The numeric average of the percent silver extraction by mineralized material type is presented in Table 13-11.

Mineralized Material Type	Ag Extraction
Overall	33.1%
Prograde (Skarn)	33.7%
Retrograde (Skarn)	27.5%
Oxides (Oxide + Overburden + Marble)	47.4%
Breccia	21.5%
Hornfels	32.2%
Porphyry + Endoskarn + Intrusive (Argillic Intrusive + Intrusive)	39.6%

Table 13-11: Percent Silver Extraction by Mineralized Material Type

13.5 SOLID-LIQUID SEPARATION TESTS

Solids-Liquid separation (SLS) tests were conducted on three (3) CIP materials for the Morelos Project. The purpose for conducting the test work was to generate data for each of the samples as a basis to design and size SLS equipment.

The samples were prepared by METCON Research in Tucson Arizona, and delivered to Pocock Industrial for testing in slurry form. The three CIP materials used for the SLS tests were:

- CIP 1-3 material = Prograde Skarn detoxified tailings
- CIP 4-6 material = Porphyry plus Endoskarn detoxified tailings
- CIP 7-9 material = Oxides/Hornfels/Breccia detoxified tailings

All SLS testing was conducted by Pocock Industrial at the laboratory facility located in Salt Lake City, Utah during June and July of 2011 at pH levels in the range of 10.0 to 11.0. Decant process water from the appropriate individual material and pH adjusted tap water was used to make any required dilutions during SLS testing. Complete test data sheets, figures, and correlations referenced in this report are located in the report provided by the testing agency. A brief summary of some of the equipment sizing criteria and recommendations gleaned from the testing program follows:

• Results of particle size analysis on the tested samples indicated that 80% of the particles (P80) were passing 73 microns for the CIP 1-3 material, 82 microns for the CIP 4-6 material, and 78 microns for the CIP 7-9 material. With size fractions passing 37 microns (400 mesh) of 50.92% for the CIP 1-3 material, 52.06% for the CIP 4-6 material,





and 54.67% for the CIP 7-9 material. SLS characteristics and flocculant dose requirements for the samples were seen to be significantly worse with increasing size fraction passing 37 microns (or this behavior for SLS could also be related to sub-micron size fractions, or clay content, which could be more significant if compared on a percentage basis).

- The flocculant product selected from screening tests for best performance was Hychem AF 303, a medium to high molecular weight 7% charge density anionic polyacrylamide. Overflow clarity was seen to be very poor at pH levels of less than 10.8 to 11.0, but was very good at or above this range (adjusted with lime addition). The minimum flocculant dose anticipated varied by individual sample, but was in the overall range of 10 30 g/MT at pH 11.0, and should be delivered at a maximum solution concentration of 0.1 to 0.2 grams per liter (g/l) for best performance.
- Two types of thickening tests were performed in this report, static tests for conventional type thickener design, and dynamic tests for high rate type thickener design.
- Results of static (Conventional) thickening tests indicated optimal feed solids concentration in the maximum range of 15% 22% for the CIP 1-3 material, 14% 18% for the CIP 4-6 material, and 10% 15% for the CIP 7-9 material. For conventional thickener sizing, minimum recommended unit area design basis is 0.125 m²/MTPD with flocculant for the CIP 1-3 material (or 0.28 0.32 m²/MTPD with no flocculant), 0.14 0.18 m²/MTPD with flocculant for the CIP 4-6 material (or 0.94 0.98 m²/MTPD with no flocculant), and 0.16 0.20 m²/MTPD with flocculant for the CIP 7-9 material (or 3.5 4.5 m²/MTPD with no flocculant) at pH 11.0.
- Results of dynamic (High-Rate) thickening tests indicated optimal feed solids concentration in the overall maximum range of 15% 22% for the CIP 1-3 material, 14% 18% for the CIP 4-6 material, and 13% 17% for the CIP 7-9 material. Thickening tests conducted on the CIP samples indicated a hydraulic net feed loading rate design basis in the maximum range of 4.5 5.5 m³/m²·hr for the CIP 1-3 material, 4.0 5.0 m³/m²·hr for the CIP 4-6 material, and 3.0 4.0 m³/m²·hr for the CIP 7-9 material. pH range of 10.8 11.0 gave the best overflow clarity and minimum flocculant dose requirement therefore operation at pH 10.8 11.0 should be considered for this material.
- For this application, given the settling rates achieved and the optimal feed dilution requirements a High-Rate type thickener is recommended. Thickener rake mechanisms should be heavy-duty, sufficient to handle the high anticipated thickened density and weight of the compacted material.
- Recommended maximum design thickener underflow density for a standard conventional or high rate type thickener is in the range of 68% 72% for the CIP 1-3 material, 57% 61% for the CIP 4-6 material, and 52% 56% for the CIP 7-9 material at pH 10.8 11.0 based on rheology data.





Based on the results of the thickening tests conducted on the Morelos detoxified tailing materials, the following recommended thickener design parameters are presented in Table 13-12.





Sample Material	Flocculant Type	Feed pH (units)	Max Feed Solids Conc. (%)	Minimum Flocculant Dose (g/MT)(1)	Max Underflow Solids Concentration (%)(2)	Recommended Thickener Design Basis Range ₍₃₎	Thickener Type
CIP 1-3 (No Floc)	No Floc	11.0	17%		68% - 72%	0.28 – 0.32 (m/MTPD) Conventional	Standard Conventional
	Hychem			10 – 15		0.125 (m ² /MTPD) Conventional	Standard Conventional
CIP 1-3 (with Floc)	AF 303	11.0	15% - 22%	15	68% - 72%	4.5 – 5.5 (4) (m ³ /m ² hr) High Rate	Standard High Rate
CIP 4-6 (No Floc)	No Floc	11.0	17%		57% - 61%	0.94 – 0.98 (m /MTPD) Conventional	Standard Conventional
	Hychem			25 – 30		0.14 – 0.18 (m ² /MTPD) Conventional	Standard Conventional
CIP 4-6 (with Floc)	AF 303	11.0	14% - 18%	15 – 20	57% - 61%	4.0 – 5.0 (4) (m ³ /m ² hr) High Rate	Standard High Rate
CIP 7-9 (No Floc)	No Floc	11.0	17%		52% - 56%	3.5 – 4.5 (m /MTPD) Conventional	Standard Conventional
	Hychem		10% - 15%	30	500/ 500/	0.16 – 0.20 (m ² /MTPD) Conventional	Standard Conventional
CIP 7-9 (with Floc)	AF 303	11.0	13% - 17%	30 – 35	52% - 56%	3.0 - 4.0 (4) (m ³ /m ² hr) High Rate	Standard High Rate

Table 13-12: Summary of Recommended	Thickening Design Parameters
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Pulp viscosity data were collected on thickened CIP materials using two different types of viscometer equipment, a FANN (Model 35A) viscometer and a Haake (Model 550), to accurately define the maximum yield stress associated with the un- sheared settled solids bed for torque specification and pumping considerations.

- The Haake viscosity data on the CIP materials showed that the totally un-sheared yield stress from the vane instrument were significantly higher than the sheared or mildly sheared yield stress. This result indicates that actual maximum underflow density could be somewhat lower than that predicted from the fully sheared rheology profile depending on the extent of shear imparted by the rake mechanism. Specialized equipment and engineering are generally required if achieving underflow densities higher than the recommended ranges shown in the test results are desired for the material.
- Pressure filtration tests were conducted on each of the CIP materials at two different solids concentrations (about 10% apart) to determine the impact of fluctuations in feed solids on filter sizing. Filtration test results indicated no significant change in filter sizing between 64% and 74% for the CIP 1-3 material, no significant change in filter sizing between 57% and 65% for the CIP 4-6 material. However, the CIP 7-9 material did indicate a significant increase in filter sizing between 50% and 60% feed solids. Hence, the CIP 7-9 sample was very sensitive to feed solids for filter sizing requirements (effectively doubling the filter size in this range).

For optimal tonnage throughput, the recommended chamber thickness for the CIP1-3 and CIP 4-6 materials was 60 mm. Filter sizing data based on a tonnage of 14,000 MTPD indicates that a minimum of two (2) filters having a total of 336 chambers would be required to process this tonnage for the CIP 1-3 and 4-6 materials. However, on a similar comparison for the CIP 7-9 material, significantly more filter area was required (797 total chambers or 5 similar filter presses at 60% solids, and 1,620 chambers required or 10 filter presses at 50% feed solids). Hence, the CIP 7-9 material is again a limiting factor in SLS equipment sizing, and sample blending should possibly be considered for this material.

A summary of filter sizing parameters for horizontal recess plate type filter presses based on the test data obtained for material tested is presented in Table 13-13.



MORELOS GOLD PROJECT MINERAL RESOURCE STATEMENT



Material	Design Tonnage (MTPD)	Dry Bulk Cake Density, (kg/m ³)	Sizing Basis(1) (m ³ /MT) dry solids	Recess Plate Depth (mm)	Chamber Spec. (Len./Vol./Area) (mm/m ³ /m ²)	Filter Feed Solids (%)	Filter Cake Moist. (%)	Filter Cycle Time(min)	Pressure Filter Chambers Required/ Number of Presses Required (Frame #)				
	14,000	2109.0	0.593	20	2500/0 260/0 60	74.7%	9.3%	13.1	336 / 2 (P19)				
CIP 1-5	14,000	2050.3	0.610	30	30	50	50	00	2300/0.269/9.60	63.7%	9.6%	12.7	336 / 2 (P19)
	14,000	1733.2	0.721	20	2500/0 260/0 60	65.3%	14.9%	10.7	336 / 2 (P19)				
CIF 4-0	14,000	1758.4	0.711	30	2000/0.209/9.00	57.3%	13.7%	10.9	336 / 2 (P19)				
	14,000	1765.3	0.708	30	2500/0 260/0 60	59.7%	21.7%	25.0	767 / 5 (P19)				
GIP 7-9	14,000	1855.3	0.674	30	200/0.209/9.00	50.4%	20.8%	55.4	1,620 / 10 (P19)				

Table 13-13: Horizontal Recess Plate Filter Press Sizing





14 MINERAL RESOURCE ESTIMATES

The Morelos mineral resource estimates were prepared using 3-D models in the commercial mine planning software MineSight® with reference to the Canadian Institute of Mining Metallurgy and Petroleum (CIM) Definition Standards (24 June 2011) and CIM Best Practice Guidelines for preparing mineral resources and mineral reserves.

Morelos's mineral resource was interpolated with a focus toward open pit mining. Mine block size of 7 m x 7 m x 7 m was selected. A lithology model was created using a combination of deterministic and probabilistic modeling methods using Ordinary Kriging. Gold and silver grades were interpolated into mine blocks based on lithology and mineralization domains.

Mineral resources for Morelos were constrained inside a \$1,400 per ounce gold and \$26 per ounce silver open pit shell constructed by AMEC using the commercial mine programming software NPVS Datamine®.

The El Limon mineral resource estimate and lithology model was prepared by Edward J. C. Orbock III, RM SME, Principal Geologist (AMEC, Reno). The Guajes mineral resource estimate and lithology model was prepared by Mark Hertel, RM SME., Principal Geologist, (AMEC, Phoenix).

14.1 DATABASE

Torex provided AMEC with Microsoft Excel[®] spreadsheets containing all drilling information on the Morelos property. AMEC imported the collar downhole survey, lithological, and assay data into MineSight[®] and used validation routines within the software to check for survey errors, overlapping intervals, missing intervals, skipped intervals, and values outside of range. The initial database showed a high error rate and the database was reconstructed. AMEC's re-audit on the rebuilt database shows a very low incident of errors and is sufficient to support the geological interpretations, the analytical and database quality, and therefore support the use of the data in Mineral Resource estimation.

The Morelos database contains 132,697 gold assay samples totaling 187,403.0 m and 132,527 silver assay samples totaling 187,164.1 m. The sampling was completed by means of reverse circulation, diamond core drilling, and channel samples during the period from 1997 through 2012. Two sub-set resource databases were created from this larger database, one for the two Guajes deposits, East and West and the other for the El Limon deposits, North, El Limon, and South as shown in Figure 14-1.

14.1.1 Core Recovery

AMEC compared core recovery against grade and determined that grade was not dependent on the percent of core recovered above 30%. There are 1,229 assay intervals with less than 30% core recovery and were not used in the development of the composite file and not used in gold and silver grade interpolation.



Morelos Gold Project Mineral Resource Statement





Note: Figure courtesy of AMEC, May 2012.

14.1.2 Density

Specific gravity (SG) values were updated for the 2012 resource model, using results from 1,426 wax coating SG tests. Previous SG determinations were based on water immersion method and were not used in the 2012 modeling due to the potential for a high bias of the mean value for some lithology types when compared to wax immersion results. Specific gravity domains are categorized and listed in Table 14-1, and reflect averages that are subdivided by lithology type, and by mineralized or unmineralized character (~0.5 g/t Au threshold). Fifty-three SG measurements were rejected as outliers (low and high) prior to calculating averages. Lithology types were updated to reflect relogging efforts recorded in the April 6th database, as well as lithology updates made by AMEC to the 3.5 m composites.





Table 14-1: Mean Specific Gravity Assigned to Morelos Block Model by L	Lithology T	ype
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Averages for All Campaigns (outliers removed)								
Lithology Type	# samples	SG						
31 - Mineralized	112	3.168						
31 - Unmineralized	106	3.132						
32 - Mineralized	95	3.125						
32 - Unmineralized	94	3.169						
34 - Mineralized	66	2.484						
34 - Unmineralized	54	2.642						
36 - Mineralized	52	2.629						
36 - Unmineralized	255	2.603						
37 - Mineralized	72	2.869						
37 - Unmineralized	160	2.849						
38 - Mineralized	0	2.479 (assigned)						
38 - Unmineralized	4	2.479						
39 - Mineralized	38	2.866						
39 - Unmineralized	88	2.675						
40 - Mineralized	4	2.830						
40 - Unmineralized	16	2.743						
41 - Mineralized	48	3.327						
41 - Unmineralized	44	3.691						
42 - Mineralized	28	2.572						
42 - Unmineralized	37	2.544						

14.2 MORELOS GRADE CAPPING AND RESTRICTIONS

The mineral industry employs top-cutting (also called capping) or various forms of "outlier" restriction to prevent unreasonable over-projection of very high grades during mineral resource modeling. This procedure is very subjective, and there is no standard. It is left for the Qualified Person to judge.

AMEC performed a series of capping studies on the 3.5 m composites using the following analytical tools:

- Decile analysis,
- Metal at risk,
- Coefficient of variation,
- Indicator correlation,
- Histograms, and
- Probability plots.





Results indicate that gold is concentrated in the upper decile. Overall the gold content in the 10th decile represents approximately 50% of the total metal content, while the 9th decile contains approximately 17%. Since the 10th decile contains more than twice the metal content of the 9th decile, there is a strong indication that metal reduction is warranted. AMEC performed a metal at risk analysis using AMEC's in-house FORTAN programs riskhi2a.exe and gtcomp.exe to determine that approximately 4% to 6% of the gold metal is at risk.

Implementation of grade capping/outlier restriction at El Limon and Guajes is discussed in more detail in Section 14.3.5 and Section 14.4.5 respectively.

14.3 EL LIMON MINERAL RESOURCES

14.3.1 Geological Model

AMEC modeled the complicated and complex geologic environment of the El Limon deposit using a combination of deterministic (wire-frame) and probabilistic approach. The lithology model consists of eleven rock types grouped into four lithology domains as listed in Table 14-2.

Traditional lithology domain shells were drawn manually around lithology types that comprised of the skarn group lithologies. El Limon and El Limon Sur were modeled on 43 East to West cross sections and 39 North to South long sections spaced 35 m apart. Sections were rectified on 88 mid-benches at seven meter spacing. El Limon Norte was modeled on 34 cross sections along an azimuth of N30°E and 19 long sections along an azimuth of N120°E spaced 35 m apart. Sections were rectified on 95 mid-benches at seven meter spacing.

Lithology Type	Lithology Group	Model Code	Total Length of all Intercepts in Lithology (m)
Skarn	Skarn Group	31	9,367
Retrograde Skarn	Skarn Group	32	4,176
Oxide	Skarn Group	33	325
Breccia	Skarn Group	34	2,039
Intrusive	Intrusive Group	36	32,011
Hornfels	Sedimentary Group	37	29,931
Overburden	Overburden Group	38	315
Marble	Sedimentary Group	39	8,159
Vein	Skarn Group	40	7
Massive Sulphide	Skarn Group	41	95
Fault Gouge	Skarn Group	42	1791

 Table 14-2: Primary El Limon Lithological Codes and Total Meters





Figure 14-2 shows an oblique view of the El Limon skarn domain solid looking north. Within the skarn domain a probabilistic indictor approach was taken to assign lithology type codes to individual blocks using only the lithology types from within the skarn domain. Lithology types external to the skarn domain were modeled using a probabilistic indicator using only lithology types from outside of the skarn domain. Only one lithology type was assigned to each block.



Figure 14-2: Oblique View Looking North of El Limon Skarn Solids and showing Drill Hole Trace with 0.5 g/t Au Intercepts in Red

Note: Figure courtesy of AMEC, May 2012.

14.3.2 Lithological Assignments

For the skarn domain and outside of skarn domain, lithology types were assigned to a block using a probabilistic method. AMEC constructed lithology indicator variograms using Sage2001® software. The nugget was first modeled using a single-structure, down-the-hole correlogram, and directional correlograms were modeled using a two-structure spherical (Sph) or exponential (Exp) models to fit experimental correlograms.





The following sequence was followed for each of the lithology types in their respective lithology domain excluding overburden:

- Composites with a target lithology type code were tagged with a value of 1. All other lithology types were set to value of 0. Variogram parameters were developed for each lithology type within the skarn domain and outside of the skarn domain.
- Within each domain model blocks were interpolated by OK with the lithology indicator code of 0's and 1's. Indicator values were stored in a unique indicator field for each lithology in the block model. Indictor values will range from 0 to 1.
- A single indicator pass was used to interpolate blocks. The kriging pass used a search ellipse with a range of 300 m x 300 m x 35 m, (x, y, z), and required a minimum of two composites, a maximum of 9 composites, and a maximum of three composites per drill hole to estimate a block.
- This was repeated until indicator probabilities were determined for each lithology type
- Cumulative frequency tables on mine blocks were generated for each of the ten lithology indicators with a distance to the nearest composite from 0 to 40 m.
- Create a nearest neighbor lithology block model using 7 m lithology composites.

Using the total number of nearest neighbor (NN) lithology blocks out to 40 m from the nearest composite, the indictor threshold value for each lithology can be located in the respective indicator cumulative frequency table. The threshold value is determined when the total number of indicator blocks matches or closely matches the total number of NN blocks.

Un-estimated lithology blocks (generally on the edge of the model) were assigned to the intrusive lithology (model code 36) by default. Visual inspection of cross sections and plans show good agreement of block lithology assignments when compared to nearby drill holes. Figure 14-3 is a typical cross section at the southern end of El Limon displaying block and drill hole lithology.

Overburden lithology shapes were modeled on cross sections from logged drill hole intercepts and linked into a solid. Blocks were tagged from the overburden solid and coded as overburden.



MORELOS GOLD PROJECT MINERAL RESOURCE STATEMENT Torex Gold Northeast Southwest 422800 E 422950 E 122750 E 22900 E 23000 E 23050 E Hornfels - 37 Skarn Group 31, 32 33, 34, 40, 41, 42 Overburden - 38 - 1300 Intrusive - 36 Marble - 39 - 1250 1200

Note: 50 m spacing between elevation tick marks, figure courtesy of AMEC, May 2012

Figure 14-3: Typical Indicator Lithology Cross Section at the Southern End of the El Limon Deposit, showing Mine Blocks and Drill Holes, looking Northwest



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14.3.3 Structural Domains

Four structural domains were established at El Limon to aid variography (Figure 14-4). El Limon north of the La Flaca Fault was sub-divided into two structural zones, szone1 and szone3. Drill hole logging in szone1 shows that the hornfels skarn contact is shallow dipping (similar to szone2) whereas surface mapping and drill hole logging in szone3 indicates that the hornfels skarn contact is steeply dipping, suggesting a possible high-angle rotational fault between szone1 and szone3. Szone3 and szone2 are separated by a high-angle rotational scissor-type La Flaca fault. The La Flaca fault strikes approximately N40°E with the skarn mineralization to the north szone3 showing a preferred strike orientation of N50°W and dipping -60° to -70°SW. Skarn mineralization south of La Flaca Fault (szone2) appears to have been down dropped by approximately 100 m and has a preferred strike orientation N30°E and dipping -18°NW. El Limon Sur was assigned to szone4, which has the same mineralized orientation as szone2.



Figure 14-4: Plan View of El Limon Structural Domains (Szones) with Drill Hole Collar Locations

Note: Figure courtesy of AMEC, May 2012.





14.3.4 Mineralized Domains

AMEC constructed mineralized indicator variograms using Sage2001® software. The nugget was first modeled using a single-structure, down-the-hole correlogram, and directional correlograms were modeled using both two-structure spherical (Sph) or exponential (Exp) models to fit experimental correlograms.

AMEC used probability assigned constrained kriging (PACK) to estimate the probability that a block would be interpolated with mineralized or non-mineralized gold composites. PACK was designed to define economic envelopes around mineralized domains statistically that are generally difficult to outline and delineate using the more traditional and labor-intensive methods such as wireframing. Probabilistic envelopes are first generated using indicators to define the limits of the economic mineralization and then the envelopes are used in the resource estimation to confine the mineralized composites from smearing grade into non-mineralized domains and vice versa restrict non-mineralized composites from diluting the grade in mineralized domains. The PACK method was selected in part due to its advantage of easily being updated with changing economic parameters, new data, and/or new geological interpretations.

PACK models were constructed for twenty four domains as follows:

- Mineralized and non-mineralized 3.5 m composite intervals were tagged as described in Section 14.3.6.
- A nearest neighbor gold block model was created to determine the probability threshold.
 - Seven meter gold composites were constructed from the 3.5 m composites honoring the "MIN" code as a hard boundary.
 - A nearest neighbor gold model was created using the 7 m composites to interpolate mineralized and non-mineralized gold values out to distance of 40 m and the resulting mineralized and non-mineralized blocks tabulated.
- Probability of mineralization was interpolated and stored in the block from the 3.5 m gold composites with "MIN" codes of 0's and 1's.
- Mineralized and non-mineralized estimation domains were developed for each of the following 24 domains:
 - o El Limon Norte, Szone1, skarn domain, skarn lithology group
 - El Limon Norte, Szone1, skarn domain, intrusive lithology
 - El Limon Norte, Szone1, skarn domain, sedimentary lithology group
 - El Limon Norte, Szone1, outside of skarn domain, skarn lithology group
 - El Limon Norte, Szone1, outside of skarn domain, intrusive lithology
 - El Limon Norte, Szone1, outside of skarn domain, sedimentary lithology group
 - El Limon Norte, Szone3, skarn domain, skarn lithology group
 - o El Limon Norte, Szone3, skarn domain, intrusive lithology
 - El Limon Norte, Szone3, skarn domain, sedimentary lithology group
 - o El Limon Norte, Szone3, outside of skarn domain, skarn lithology group
 - El Limon Norte Szone3, outside of skarn domain, intrusive lithology
 - o El Limon Norte, Szone3, outside of skarn domain, sedimentary lithology group
 - El Limon Szone2, skarn domain, skarn lithology group
 - El Limon Szone2, skarn domain, intrusive lithology





- El Limon Szone2, skarn domain, sedimentary lithology group
- El Limon Szone2, outside of skarn domain, skarn lithology group
- El Limon Szone2, outside of skarn domain, intrusive lithology
- o El Limon Szone2, outside of skarn domain, sedimentary lithology group
- o El Limon Sur Szone4, skarn domain, skarn lithology group
- o El Limon Sur Szone4, skarn domain, intrusive lithology
- o El Limon Sur Szone4, skarn domain, sedimentary lithology group
- o El Limon Sur Szone4, outside of skarn domain, skarn lithology group
- El Limon Sur Szone4, outside of skarn domain, intrusive lithology
- o El Limon Sur Szone4, outside of skarn domain, sedimentary lithology group
- A cumulative tabulation of the probabilities was recorded for each domain within a distance of 40 m from a drill hole. The probability threshold value selected was determined by locating where on the probability scale the number of mineralized blocks equaled or closely equaled the number of mineralized block from the NN model.
- Tagged mineralized and non-mineralized blocks were visually reviewed in cross section and plans against composites to ensure assignments were reasonable.
- Blocks tagged as mineralized were interpolated with mineralized gold composites. Blocks tagged as non-mineralized were interpolated with non-mineralized gold composites.

Search parameters for mineralized indictors for Szone 1, 2, and 4 are listed in Table 14-3 and Szone 3 in Table 14-4.

Lithology Group	Strike* (z rot)	Pitch* (x rot)150	Dip* (y rot)	Y Range ft	X Range m	Z Range m
Skarn Group	-72	-20	-2	150	150	35
Intrusive	-72	-20	-2	150	150	35
Sedimentary Group	-72	-20	-2	150	150	35

Table 14-3: El Limon Mineralized Indicator Search Strategies for Szones 1, 2, & 4

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Lithology Group	Strike* (z rot)	Pitch* (x rot)150	Dip* (y rot)	Y Range ft	X Range m	Z Range m
Skarn Group	-60	0	60	150	150	35
Intrusive	-60	0	60	150	150	35
Sedimentary Group	-60	0	60	150	150	35

Mineralized indicator variogram parameters for the Szones 1, 2, 4 are summarized in Table 14-5 and for the Szone 3 in Table 14-6. The nugget was modeled using a single structure down-the-hole correlograms and directional variograms were modeled using two structures. Block





interpolation required a minimum of two composites, a maximum of 12 composites, and no more than three composites per drill hole.

Lithology	Nugget, Sill1 & Sill2			Orientation*			Range (m)				
Lithology Group	C0	C1	C2	Strike (z rot)	Pitch (x rot)	Dip (y rot)	Y	х	Z		
Skorp	0.005	05 0.779	0.779 0.210	0.770	0.216	20	-48	79	22	24	11
SKalli	0.005			0.210	20	-48	79	73	131	195	
				-20	-17	7	16	7	11		
Intrusive	0.001	0.879	0.120	-21	-17	7	156	214	54		
	0.000	0.000 0.054	0.147	-112	-18	2	9	7	11		
Secimentary	0.002	0.051		218	86	55	-112	-18	2		

#### Table 14-5: Mineralized Indicator Variogram Parameters for the Szone 1, 2, & 4

*Rotations are left-, right-, left-hand rule

#### Table 14-6: Mineralized Indicator Variogram Parameters for Szone 3

Lithology	Nugget, Sill1 & Sill2			Orientation*			Range (m)		
Lithology Group	C0	C0 C1 C		Strike (z rot)	Pitch (x rot)	Dip (y rot)	Y	x	Z
Skorp	0.019	0.506	0.296	-63	0	77	45	13	11
Skam	0.016	0.590	0.300	36	74	-58	210	56	169
Intrucivo	0.000	0.977		-28	-76	123	14	33	9
Indusive	0.009	0.077	0.114	45	202	53	2792	98	3949
				-42	-17	83	16	13	7
Sedimentary	0.009	0.650	0.341	135	57	-159	67	39	402

*Rotations are left-, right-, left-hand rule

# 14.3.5 Grade Capping and Restrictions

El Limon capping/outlier restrictions for gold were based on szones, inside or outside of skarn domain, lithology groupings, mineralized or un-mineralized, and kriging passes. Table 14-7 through Table 14-10 lists the capping/outlier restriction used in the gold interpolation runs for szones 1 through 4. Capping/outlier restriction removed approximately 4.2% of the expected gold metal from Szones 1, 2, and 4 and 4% of the expected gold metal from Szone 3.





Silver composites were capped to 40 g/t for all lithology types except for mineralized skarn group within the skarn domain which were capped at 80 g/t.

Table 14-7: El Limon Outlier Restriction/Capping Plan for Szones 1, 2, and 4 Inside Skarn
Domain

		Minera	alized	Un-mineralized		
Lithology Group	Kriging Pass	Outlier Distance (m)	Capping Level (g/t) Au	Outlier Distance (m)	Capping Level (g/t) Au	
Skarn	Pass 1 Large Pass	14	10	14	5	
	Pass 2 Medium Pass	14	25	14	7.5	
	Pass3 Small Pass	17.5	35	17.5	7.5	
Intrusive	Pass 1 Large Pass	14	10	14	5	
	Pass 2 Medium Pass	14	20	14	7.5	
	Pass3 Small Pass	17.5	25	17.5	7.5	
Sedimentary	Pass 1 Large Pass	14	10	14	5	
	Pass 2 Medium Pass	14	20	14	7.5	
	Pass3 Small Pass	17.5	25	17.5	7.5	

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1 9 DIA 14-X P	ti i imon ( 91	nnng Plan to	r NZONE I – Z	9nd 4 ( )))(SIDE	of Nkarn Domain
$\mathbf{I} \mathbf{a} \mathbf{D} \mathbf{I} \mathbf{C} \mathbf{I} \mathbf{T}^{-} \mathbf{O} \mathbf{I} \mathbf{I}$	Ji Linnon Ca	$\gamma \mu m \epsilon + m m + \nu$		, and t Ouwinc	VI Dhai ii Dumam
				/	

		Miner	alized	Un-mineralized		
Lithology Group	Kriging Pass	Outlier Distance (m)	Capping Level (g/t) Au	Outlier Distance (m)	Capping Level (g/t) Au	
Skarn	Pass 1 Large Pass	14	5	14	5	
	Pass 2 Medium Pass	14	7.5	14	7.5	
	Pass3 Small Pass	17.5	7.5	17.5	7.5	
Intrusive	Pass 1 Large Pass	14	5	14	5	
	Pass 2 Medium Pass	14	7.5	14	7.5	
	Pass3 Small Pass	17.5	7.5	17.5	7.5	
Sedimentary	Pass 1 Large Pass	14	5	14	5	
	Pass 2 Medium Pass	14	7.5	14	7.5	
	Pass3 Small Pass	17.5	7.5	17.5	7.5	





		Minera	alized	Un-mineralized		
Lithology Group	Kriging Pass	Outlier Distance (m)	Capping Level (g/t) Au	Outlier Distance (m)	Capping Level (g/t) Au	
Skarn	Pass 1 Large Pass	14	10	14	5	
	Pass 2 Medium Pass	14	30	14	30	
	Pass3 Small Pass	17.5	32.5	17.5	32.5	
Intrusive	Pass 1 Large Pass	14	10	14	5	
	Pass 2 Medium Pass	14	20	14	20	
	Pass3 Small Pass	17.5	22.5	17.5	22.5	
Sedimentary	Pass 1 Large Pass	14	10	14	5	
	Pass 2 Medium Pass	14	20	14	20	
	Pass3 Small Pass	17.5	22.5	17.5	22.5	

Table	14-9:	EU	Limon	Cappir	g Plan	for Szo	ne 3 In	side of	f Skarn	Domain
Lanc	14-70			Cappin	is i iai		ne 5 m	siuc of		Domain

Table 14-10: El Limon Capping Plan for Szone 3 Outside of Skarn Domain

		Minera	alized	Un-mineralized		
Lithology Group	Kriging Pass	Outlier Distance (m)	Capping Level (g/t) Au	Outlier Distance (m)	Capping Level (g/t) Au	
Skarn	Pass 1 Large Pass	14	5	14	5	
	Pass 2 Medium Pass	14	7.5	14	7.5	
	Pass3 Small Pass	14	7.5	14	7.5	
Intrusive	Pass 1 Large Pass	14	5	14	5	
	Pass 2 Medium Pass	14	7.5	14	7.5	
	Pass3 Small Pass	14	7.5	14	7.5	
Sedimentary	Pass 1 Large Pass	14	5	14	5	
	Pass 2 Medium Pass	14	7.5	14	7.5	
	Pass3 Small Pass	14	7.5	14	7.5	

# 14.3.6 Composites

The El Limon resource model was constructed from 564 core holes, 33 reverse circulation holes and 41 channel samples. GPS field survey location of channel samples were converted to mimic drill holes with collar and down hole surveys. Collar survey, down-hole survey, assays and lithology files were imported into Minesight® mining software version v7.0-4 (build 52681-304). AMEC composited database assays into 3.5 m lengths. Composites with lithology logged as undefined were back-tagged from the lithology interpolated mine block they intersected.

Composites were exported to an Excel® file and an "MIN" field was added and set to a default value of "0" to indicate that the composite is below Au cutoff grade. Mineralized intercepts were tagged with "1" by hand if the following criteria were observed:

• Minimum length of two 3.5 m composites, which matches the bench height of the block model





• Mean Au interval grades equaled to or were greater than 0.5 g/t.

The 0.5 g/t Au was selected as the expected cutoff grade for mineral resources. The values of the "MIN" field were then imported into a field in the composite file to be used in indicator kriging to identify mineralized and non-mineralized mine blocks.

# 14.3.7 Exploratory Data Analysis (EDA)

# 14.3.7.1 Univariate Composite Statistics

Exploratory data analysis ("EDA") was conducted using composites to determine the appropriate estimation parameters based on mineralization and lihology types. Descriptive statistics (as listed in Table 14-11), boxplots, histograms, cumulative probability plots and contact plots were completed for gold composites tagged as "MIN" (mineralized) and for unmineralized gold composites.

Area/Variable	Model Code	No.	Mean	Min	Max	Std. Dev.	Coeff. Of Variation
ALL COMPOSITES	0040					2011	Variation
Skarn	31	2697	2.129	0.000	161.176	5.715	2.684
Retro Skarn	32	1199	2.090	0.000	62.927	4.624	2.213
Oxide	33	94	2.756	0.000	31.023	5.056	1.835
Breccia	34	590	1.714	0.000	80.778	5.444	3.177
Intrusive	36	9258	0.162	0.000	56.216	1.018	6.266
Hornfels	37	8705	0.373	0.000	75.682	1.567	4.196
Marble	39	2357	0.124	0.000	23.154	0.752	6.075
Vein	40	2	0.633	0.017	1.248	0.633	1.376
Massive Sulphide	41	27	1.774	0.003	9.069	2.841	1.601
Fault Gouge	42	552	1.454	0.000	73.866	5.214	3.587
NON-MINERALIZED CON	IPOSITES	5					
Skarn	31	1446	0.156	0.000	3.205	0.182	1.165
Retro Skarn	32	618	0.160	0.000	1.727	0.176	1.102
Oxide	33	33	0.176	0.000	0.800	0.173	0.986
Breccia	34	347	0.164	0.000	2.618	0.233	1.418
Intrusive	36	8667	0.045	0.000	1.274	0.091	2.031
Hornfels	37	7402	0.121	0.000	4.708	0.140	1.165
Marble	39	2223	0.030	0.000	0.889	0.078	2.598
Vein	40	1	0.017	0.017	0.017	-	0.000
Massive Sulphide	41	15	0.218	0.003	0.497	0.166	0.763
Fault Gouge	42	359	0.119	0.000	3.483	0.220	1.843
MINERALIZED COMPOS	ITES						
Skarn	31	1251	4.410	0.031	161.176	7.790	1.767
Retro Skarn	32	581	4.143	0.034	62.927	5.995	1.447
Oxide	33	61	4.152	0.107	31.023	5.829	1.404
Breccia	34	243	3.926	0.086	80.778	7.982	2.033
Intrusive	36	591	1.890	0.003	56.216	3.596	1.903
Hornfels	37	1303	1.810	0.000	75.682	3.724	2.057
Marble	39	134	1.682	0.002	23.154	2.707	1.609
Vein	40	1	1.248	1.248	1.248	-	0.000
Massive Sulphide	41	12	3.720	0.534	9.069	3.406	0.916
Fault Gouge	42	1251	4.410	0.031	161.176	7.790	1.767

 Table 14-11: El Limon Descriptive Statistics for Gold Composites





#### 14.3.7.2 Contact Analysis

To determine whether composites should be used across lithological boundaries during gold estimation, AMEC constructed contact plots for all the different combinations of lithological boundaries. A contact profile is a plot of the average grade as a function of distance from the contact. For example the grade profile can be plotted on an X-Y graph with grade plotted on the Y-axis and distance from the contact plotted on the X-axis. The contact is located mid-way along the X-axis so that the profile from one domain can be plotted to the left of the contact while the profile from a second domain can be plotted to the right of the contact.

Hard contacts are generally justified if there is a substantial grade difference between the domains. Figure 14-5 shows an example of a hard contact boundary between lithology types. Mean gold grade for the Skarn mineralized composites is 4.52 g/t whereas the mineralized hornfels is 1.81 g/t Au or more than twice the grade. The grade profile between the two lithologies is marked by a sharp separation at the contact or at the zero interval. During grade interpolation, composites are not shared across hard contact boundaries.

Soft contacts are justified between domains if the grade difference is minor or if the grades at the boundary are nearly identical. Figure 14-6 is an example of a soft contact boundary between mineralized skarn and mineralized retrograde skarn. Mean gold grade for the skarn is 4.56 g/t whereas the retrograde skarn is 4.16 g/t Au. The grade profile between the two lithologies almost mirrors each other. Domains identified as having soft contacts were allowed to share composites during grade interpolation.

Results from the El Limon contact profiles showed that both hard and soft contacts exist. To implement the handling of composites used across lithological boundaries, AMEC grouped the lithology units into two domains based on similar mean grades and contact profiles. As a result, the following lithology domains were created and as listed in Table 14-2:

- Skarn group domain was created by grouping the skarn, retro-skarn, oxide, breccias, vein, massive sulphide, and fault gouge lithologies.
- Intrusive group was created with only the intrusive lithology
- Sedimentary group was created by combining hornfels and marble lithologies.

Overburden or Quaternary alluvium was not interpolated for gold or silver grades.







Figure 14-5: Typical Example of a Hard Boundary. Gold Contact Plot of Mineralized Skarn vs. Mineralized Hornfels Composites







Figure 14-6: Typical Example of a Soft Boundary. Gold Contact Plot of Mineralized Skarn vs. Mineralized Retrograde Skarn Composites

# 14.3.8 Gold Variography

AMEC constructed gold variograms using Sage2001® software. The nugget was first modeled using a single-structure, down-the-hole correlogram, and directional correlograms were modeled using two-structure spherical or exponential models to fit experimental correlograms. AMEC noted that nuggets for some gold domains were elevated. AMEC conducted three passes; with pass one having a larger search range than the second pass and second pass having larger search range than the third pass. Search parameters used for gold and silver estimation for Szones 1, 2, and 4 are listed in Table 14-12. Search parameters used for gold and silver estimation in Szone 3 is listed in Table 14-13. Gold variogram parameters are listed in Table 14-14.





Table 14-12: Gold Mode	<b>1 3-D Composite Search</b>	Strategies for Szone 1, 2, & 4
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Pass	Lithology Group	Strike* (z rot)	Pitch* (x rot)	Dip* (y rot)	Y Range m	X Range m	Z Range m
Pass 1	Skarn	-72	-20	-2	150	150	35
Pass 2	Skarn	-72	-20	-2	75	75	35
Pass 3	Skarn	-72	-20	-2	50	50	35
Pass 1	Intrusive	-72	-20	-2	150	150	35
Pass 2	Intrusive	-72	-20	-2	75	75	35
Pass 3	Intrusive	-72	-20	-2	50	50	35
Pass 1	Sedimentary	-72	-20	-2	150	150	35
Pass 2	Sedimentary	-72	-20	-2	75	75	35
Pass 3	Sedimentary	-72	-20	-2	50	50	35

Note: *Rotations are left-, right-, left-hand rule

Pass	Lithology Group	Strike* (z rot)	Pitch* (x rot)	Dip* (y rot)	Y Range m	X Range m	Z Range m
Pass 1	Skarn	-60	0	60	150	150	50
Pass 2	Skarn	-60	0	-60	75	75	35
Pass 3	Skarn	-60	0	-60	50	50	35
Pass 1	Intrusive	-60	0	60	150	150	50
Pass 2	Intrusive	-60	0	-60	75	75	35
Pass 3	Intrusive	-60	0	-60	50	50	35
Pass 1	Sedimentary	-60	0	60	150	150	50
Pass 2	Sedimentary	-60	0	-60	75	75	35
Pass 3	Sedimentary	-60	0	-60	50	50	35

Note: *Rotations are left-, right-, left-hand rule





	Nugget, Sill1 & Sill2			C	rientatio	n*	Range (m)			
Lithology Group	C0	C1	C2	Strike (z rot)	Pitch (x rot)	Dip (y rot)	Y	х	Z	
Mineralized	0.162	0 740	0.005	-118	-5	6	13	45	12	
Skarn	0.163	0.742	0.095	-13	-9	102	597	17	203	
Mineralized	0.002	0.926	0.73	-14	-16	83	33	5	2	
Intrusive				5	43	-51	100	15	812	
Mineralized	0.000	0.000	0.70	-14	-16	83	33	5	2	
Sedimentary	0.002	0.920	0.73	5	43	-51	100	15	812	
Non-Mineralized	0.070	0.750	0.400	-64	35	-4	15	37	3	
Skarn	0.070	0.750	0.180	-55	92	-3	312	83	56	
Non-Mineralized	0.070	0.000	0.004	-42	-10	11	21	3	7	
Intrusive	0.073	0.696	0.231	144	138	-63	50	72	129	
Non-Mineralized	0.204	0 4 4 4	0.055	-42	11	28	18	17	7	
Sedimentary	0.301	0.444	0.255	7	28	-42	165	139	366	

Table 14-14: Gold Variography Parameters for Szone 1, 2, & 4

Note: *Rotations are left-, right-, left-hand rule`

	Nugget, Sill1 & Sill2			C	rientatio	n*	Range (m)			
Lithology Group	C0	C1	C2	Strike (z rot)	Pitch (x rot)	Dip (y rot)	Y	х	Z	
Mineralized	0.151	0.696	0.162	-13	-11	80	36	8	1	
Skarn	0.151	0.000	0.163	65	77	-12	97	19	789	
Mineralized	0.205	0.490	0.305	-59	34	-46	23	20	4	
Intrusive				-41	47	-24	419	7	389	
Mineralized	0.004	0.062	0.047	-24	-27	6	98	21	444	
Sedimentary	0.891			-61	-27	-8	447	30	639	
Non-Mineralized	0.404	0 574	0.005	-50	65	94	10	10	5	
Skarn	0.164	0.571	0.265	-6	25	-30	241	56	506	
Non-Mineralized	0.005	0.050	0.4.45	53	66	-61	132	22	2	
Intrusive	0.205	0.650	0.145	-11	93	-19	397	33	1006	
Non-Mineralized	0.400	0.570	0.000	-56	27	-47	86	164	5	
Sedimentary	0.400	0.572	0.028	1	-10	-46	937	40	396	

# Table 14-15: Gold Variography Parameters for Szone 3

Note: *Rotations are left-, right-, left-hand rule

# 14.3.9 Estimation of Gold and Silver Grades

Gold grades in the skarn intrusive and sedimentary group domains were estimated using a threepass estimation method by Ordinary Kriging. Pass 1 used a larger search distance then Pass 2 and required a minimum of one composite, a maximum of 20 composites and a maximum of three composites per hole. A minimum of one drill hole is required to interpolate gold grades





into a block. Pass 2 used a larger search distance than Pass 1 and required a minimum of four composites, a maximum of 20 composites, and a maximum of three composites per any one drill hole. Pass 3 used smaller search radii than that of Pass 2 or Pass 1 and required a minimum of six composites, a maximum of 12 composites, and a maximum of three composites per any one drill hole. A minimum of two drill holes is required to interpolate gold grades into a block.

Silver grades were interpolated along with the gold grades in the same gold interpolation runs. Silver grade interpolation runs honored all of the gold parameters except for capping and outlier restriction.

# 14.3.10 Block Model Validation

#### 14.3.10.1 Nearest-Neighbor Block Model

AMEC constructed a gold NN model to compare to the kriged block model to check for global and local bias. Assays were composited to 7 m down the hole, honoring mineralized tags from the 3.5 m composite file. The NN model used the same block size of 7 m x 7 m x 7 m. NN grade interpolation also honored the outlier grade restrictions as applied to the OK gold model.

#### 14.3.10.2 Global Bias

AMEC checked the gold model for global bias by comparing the means of the kriged model with means from the NN model. The NN model theoretically produces an unbiased estimate of average value at a zero cut-off grade. A relative percentage value of less than 5% difference between the means is an acceptable result and indicates good correlation between the two models. The skarn lithology group kriged gold estimates are within the 5% limit and indicate a good correlation with the NN model as shown in Table 14-16 below. The sediment and intrusive lithology group are within the lower limits of -5% at -2.8% and -0.4% respectively. AMEC is of the opinion that kriged gold grade at El Limon are globally unbiased.

Lithology Group	# Blocks	Mean Gold Grade of Krige Model (g/t)	Mean Gold Grade of NN Model (g/t)	Relative Percent Difference
Skarn	46,011	1.690	1.625	4%
Intrusive	143,101	0.082	0.085	-2.8
Sedimentary	113,589	0.225	0.226	-0.4

Table 14-16: El Limon	Global Bias	Check by	Lithology Group
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# 14.3.10.3 Visual Inspection

Cross sections were viewed on screen by lithologies comparing blocks to drill holes and matched reasonably well. Gold grades from the kriged and NN blocks were compared to the composite grades and the comparisons also looked reasonable. Figure 14-7 presents an example cross-section through El Limon Main just northwest of the La Flaca fault.





Figure 14-7: Cross Section through Middle of El Limon Main showing Au Composite and Block Grades – Looking Northwest. Displayed Model Blocks are the Extent of the Mineral Resource Pit.

Note: Figure courtesy of AMEC, May 2012.

14.3.10.4 Swath Plots

Swath plot validation was performed with an in-house AMEC program *swath2.exe* that permits a visual comparison of local bias between the kriged and NN estimates. The program separates the block model into user defined orthogonal slices (swaths) along easting, northing, and elevation axis and calculates the average grade for each swath.

AMEC reviewed swath plots by domain and determined that gold grades from kriged blocks compared well with NN blocks, matching peaks and valleys and comparable well to composite grades where there is increasing number of composites. Figure 14-8 shows a typical swath plot of skarn Au grades for skarn lithology group in the skarn domain. AMEC concludes that the estimation appears to be locally unbiased.









Figure 14-8: El Limon Au Swath Plot showing Skarn Lithology Group in Skarn Domain.





#### 14.3.10.5 Change of Support

The degree of smoothing in the block model estimates were evaluated using the discrete Gaussian or Hermitian polynomial change of support (Herco) method (Journel and Huijbregts, 1978). The Herco validation was performed with the AMEC Fortran programs HERCO04D.exe and GTCOMP.exe. The block size or standard mining unit (SMU) tested were 7 x 7 x 7 meters and 14 x 14 x7 meters with the larger SMU blocks generally showing better results. For skarn lithology group in Szones 1, 2, and 4, at a cut-off grade of 0.5 g/t Au, the Herco grade is approximately 0.1% higher than the kriged estimate. At a 1 g/t cut-off grade, the Herco grade is approximately 1.1% higher than the kriged estimate as shown in the grade-tonnage curve in Figure 14-9. The grade-tonnage curves match very well and indicate that the kriged model should produce the expected tonnes and grade at 0.5 g/t Au.



# 14.4 GUAJES MINERAL RESOURCES

# 14.4.1 Composites

A standard 3.5 m length was used for all assay composites. Composites were assigned majority logged lithology. Composites with lithology logged as undefined were back-tagged from the lithology interpolated mine block they intersected.





# 14.4.2 Exploratory Data Analysis, Domain Definition

#### 14.4.2.1 Basic Statistics

The skarn envelope was used to create two domains, inside the skarn envelope and outside of the skarn envelope.

Descriptive statistics were completed on the gold composites by rock code within the skarn envelope and outside of the skarn envelope. Descriptive statistics ran include box plots, histograms, and cumulative frequency plots. Based on the evaluation of the exploratory data analysis (EDA) work, AMEC created three geology domains from the composite data. The domains were selected on similar mean grade and sample distributions of rock coded composites. AMEC created a high geologic domain by grouping; skarn, retrograde skarn, oxide, sulphide, gouge, and breccia rock-coded composites; a medium geologic domain by grouping hornfels, marble, and vein composites; and a low geologic domain with intrusive coded composites.

EDA was then performed on the resulting three geology domains and internal and external to the skarn envelope. From this work AMEC selected an indicator value of 0.3 g/t Au cut-off. The indicator was selected from cumulative probability plots (Figure 14-10).



Figure 14-10: Composite Probability Plot

Kriging the indicator to form block probabilities resulted in the development of a high grade skarn envelope domain. The indicator and subsequent grade estimation were determined by respecting high coefficient of variations (CV = standard deviation/mean) of the composites by rock code and domain.

AMEC used the three skarn envelope domains, skarn envelope high, skarn envelope low, and outside envelope, along with the three geological domains, high, medium, and low, for grade estimation domaining. Summary statistics for the domains are shown in Table 14-17.



# Morelos Gold Project Mineral Resource Statement



	Au Composites Within Skarn Envelope, High Grade Domain									
Rock/Geo. Domain	Model Code	No.	Mean	Min	Max	Std. Dev.	Coeff. Of Var			
Skarn	31	1256	3.016	0.002	149.131	7.091	2.351			
Retrograde Skarn	32	397	3.715	0.003	92.369	7.813	2.103			
Oxide	33	6	3.029	0.299	8.508	2.911	0.961			
Breccia	34	229	3.059	0.003	50.726	6.797	2.222			
Intrusive	36	190	0.214	0.001	0.961	0.211	0.985			
Hornfels	37	20	1.470	0.003	6.731	1.912	1.301			
Marble	39	41	1.556	0.003	14.123	3.146	2.022			
Vein	40	2	1.015	0.032	1.998	0.983	0.968			
Sulphide	41	15	3.781	0.188	24.133	5.891	1.558			
Gouge	42	29	2.718	0.037	15.538	3.822	1.406			
	Rock Types Group	ed For Es	stimation	Geolog	ic Domains					
High	31,32,33,34,41,42	1932	3.167	0.002	149.131	7.170	2.264			
Medium	37,39,40	63	1.511	0.003	14.123	2.761	1.827			
Low	36	190	0.214	0.001	0.961	0.211	0.985			
	Au Composites With	in Skarn	Envelop	e, Low G	rade Doma	in				
Rock/Geo. Domain	Model Code	No.	Mean	Min	Max	Std. Dev.	Coeff. Of Var			
Skarn	31	2506	0.237	0.001	30.842	1.379	5.817			
Retrograde Skarn	32	544	0.284	0.002	16.646	1.251	4.405			
Oxide	33	9	0.084	0.003	0.298	0.111	1.321			
Breccia	34	399	0.259	0.003	7.265	0.711	2.746			
Intrusive	36	975	0.046	0.001	0.963	0.089	1.934			
Hornfels	37	132	0.322	0.003	20.515	1.811	5.624			
Overburden	38	2	0.064	0.026	0.102	0.038	0.594			
Marble	39	85	0.091	0.003	1.334	0.200	2.201			
Vein	40	2	0.082	0.058	0.106	0.024	0.293			
Sulphide	41	18	0.521	0.018	3.839	1.048	2.011			
Gouge	42	40	0.778	0.003	25.726	4.126	5.303			
	Rock Types Group	ed For Es	stimation	Geolog	ic Domains	5	1			
High	31,32,34,37,41,42	3664	0.255	0.001	30.842	1.375	5.392			
Medium	33,38,39,40	99	0.089	0.002	1.334	0.190	2.130			
Low	36	979	0.046	0.001	0.963	0.089	1.929			
	Au Composites Outsi	ide Skarn	Envelo	be Low C	Grade Doma	ain				
Rock/Geo. Domain	Model Code	No.	Mean	Min	Max	Std. Dev.	Coeff. Of Var			
Skarn	31	256	0.45	0.003	7.99	1.016	2.257			
Retrograde Skarn	32	100	0.517	0.003	9.868	1.223	2.366			
Oxide	33	2	0.01	0.002	0.019	0.008	0.81			
Breccia	34	232	0.234	0.003	5.131	0.495	2.116			
Intrusive	36	11441	0.082	0.001	8.846	0.238	2.908			
Hornfels	37	3890	0.176	0.001	140.888	2.315	13.152			
Overburden	38	106	0.135	0.001	1.406	0.240	1./81			
Marble	39	888	0.081	0.001	8.601	0.463	5./19			
Vein	40	3	0.168	0.095	0.282	0.082	0.486			
Sulphide	41	1/	0.623	0.01	2.574	0.892	1.432			
Gouge	42	558	0.193	0.001	1.44	0.535	2.772			
	Rock Types Group	ed For Es	stimation	Geolog	ic Domains					
High	31,32,34,41	605	0.4	0.003	9.868	0.989	2.472			
Medium	37,38,40,42	4575	0.178	0.001	140.888	2.142	12.034			
Low	33,36,39	12331	0.081	0.001	8.846	0.236	2.908			





## 14.4.2.2 Contact Analysis

AMEC constructed contact profiles to analyze the grade behavior at the lithological boundaries. From the contact plots it was determined that hard boundaries would be used between the three geological domains and also the three skarn envelope domains.

# 14.4.3 Variography

AMEC used commercially-available Sage2001[®] software to construct down-the-hole and directional correlograms for the selected indicators and estimation domains. Variogram results are summarized in Table 14-19.

# 14.4.4 Density

AMEC used the SG values with low and high outliers removed as listed in Table 14-1 AMEC assigned SG values to each block based on the block rock type and Au block grade a 0.5 Au g/t cut-off differentiated between mineralized and unmineralized blocks.

# 14.4.5 Guajes Grade Capping and Restrictions

Gold Capping/outlier restriction at Guajes was based on inside or outside of skarn domain and mineralized or un-mineralized. Table 14-18 lists the capping/outlier restriction used in the interpolation runs. Capping/outlier restriction removed approximately 3.2% of the expected gold metal.

# Table 14-18: Guajes East and West Outlier Restriction/Capping Plan for Inside and Outside of Skarn Domain

		Minera	alized	Un-mineralized		
Domain	Lithology Group	Outlier Distance (m)	lizedUn-minCapping LevelOutlier Distance (g/t) Au3017.57.517.5	Capping Level (g/t) Au		
Inside Skarn	All Lithologies	17.5	30	17.5	15	
Outside Skarn	All Lithologies	17.5	7.5	17.5	7.5	

Silver composites were capped at 40 g/t for all lithology outside of the skarn domain and capped at 80 g/t for all lithologies inside the skarn domain.

# 14.4.6 Grade Estimation and Model Validation

# 14.4.6.1 Estimation Plan

AMEC developed an estimation plan using the three geological domains, the skarn envelope, the high grade domain within the skarn envelope defined from kriging the high-grade Au indicator, and outside of the skarn envelope. A three pass estimation plan was used that employed a more restrictive local estimate with each pass, permitting a more local estimate if composites were locally available. For gold and silver block grade estimation, AMEC used a maximum of 20 composites, minimum of 2, and a maximum of 3 from any single drill hole for the first pass. For





the second pass a maximum of 20 composites, minimum of 4, and a maximum of 3 from any single drill hole. The third and final pass used a maximum of 12 composites, minimum of 6, and a maximum of 3 from any single drill hole. Gold and silver grades were estimated for each block. Ranges and rotation angles are summarized in Table 14-19.

Guajes Ordinar	Guajes Ordinary Kriging Parameters*										
Skarn					Y	Х	Z	Rot	Rot	Rot	
Envelope	Geology		Sill -	Variogram	axis	axis	axis	Z	Х	Y	
domain	domain	Nugget	nugget	model	range	range	range	axis	axis	axis	
Skarn High	High	0.25	0.75	exp	60	32	15	47	-15	42	
Skarn High	Medium	0.25	0.75	exp	60	32	15	47	-15	42	
Skarn High	Low	0.25	0.75	exp	100	32	15	47	-15	42	
Skarn Low	High	0.30	0.70	exp	24	155	15	-11	-10	24	
Skarn Low	Medium	0.30	0.70	exp	40	160	40	-11	-10	24	
Skarn Low	Low	0.30	0.70	exp	40	160	40	-11	-10	24	
Outside Skarn	High	0.30	0.70	exp	47	68	24	7	5	-1	
Outside Skarn	Medium	0.30	0.70	exp	66	24	24	-6	-23	54	
Outside Skarn	Low	0.30	0.70	exp	50	35	23	25	-14	22	
* ranges in metre	ers, rotation	s rules (zx	y-LRL)								

## Table 14-19: Guajes Gold Estimation Parameters

Composites were selected for grade estimation from each of the nine combined skarn envelope/geological domains, matching with envelope/geological domain coded blocks.

Detailed visual inspection was completed by AMEC on the Guajes model. The model was checked for proper coding of drill hole intervals and block model cells, in both section and plan. Coding was found to be properly done. Grade interpolation was checked relative to drill hole composites and found to be reasonable.

Figure 14-11 is a long section of the Guajes block model, Guajes deposit Au g/t, looking to the northwest, showing block Au grade in grams per tonne, composites, and the economic cone used to show reasonable prospects for economic extraction by open pit mining.

Figure 14-12 is a long section of the Guajes block model; Guajes deposit Ag g/t, looking to the northwest. This section shows the block Ag grade in grams per tonne, composites, and the economic cone used to show reasonable prospects for economic extraction by open pit mining.







Figure 14-11: Guajes Deposit Au g/t Long Section






Figure 14-12: Guajes Deposit Ag g/t Long Section



## Morelos Gold Project Mineral Resource Statement



AMEC checked the block model estimates for global bias by checking the mean nearestneighbor estimate for gold grade against model OK grade estimates. Mean grades were found to match very well Table 14-20 and Table 14-21. AMEC checked for local bias using swath plots. No local bias was observed.

# Table 14-20: Global Bias Check for Gold Interpolation Using Measured and Indicated Blocks from Kriged and NN Models

Domain	# Blocks	# Blocks Mean Gold Mean Gold Grade of Krige Grade of N Model (g/t) Model (g/t		Relative Percent Difference
All Domains	216,913	0.308	0.314	-1.9%
Skarn Domain	56,572	0.879	0.866	1.5%

# Table 14-21: Global Bias Check for Silver Interpolation Using Measured and Indicated Blocks from Kriged and NN Models

Domain	# Blocks	Mean Silver Grade of Krige Model (g/t)	Mean Silver Grade of NN Model (g/t)	Relative Percent Difference
All Domains	217,006	1.238	1.252	-1.1%
Skarn Domain	56,572	1.854	1.843	0.6%

# 14.5 **RESOURCE CLASSIFICATION, MORELOS**

AMEC visually reviewed the continuity of resource blocks with gold grades equal to or greater than the base case cut-off of 0.5 g/t Au in section and plan. AMEC concluded that the resource model showed good grade and geologic continuity in areas with 20 m drill spacing, and adequate continuity for grade interpolation and open-pit mine planning along strike and dip in areas with drill hole spacing of 36 m.

AMEC removed one of the twin holes from consideration prior to distance calculations to the three closest drill holes to a mine block.

# 14.5.1 Confidence Limits

Geostatistics provides an assortment of tools to establish confidence levels on resource estimates. The simplest of these methods involves evaluation of estimation variances for large blocks. This method gives an estimate of global confidence or confidence over large areas. The method is not dependent on the local data.





## 14.5.2 Inferred Drill Hole Grid Spacing

Mineral resources were classified as Inferred when a block was located within 60 m of the nearest composite. Drill hole spacing for declaration of Inferred Mineral Resources would broadly correspond to a 60 m x 60 m grid.

## 14.5.3 Indicated Drill Hole Grid Spacing

AMEC calculated the confidence limits for determining the appropriate drill grid spacing for declaration of Indicated Mineral Resources. AMEC considers that Indicated Mineral Resources should be known within  $\pm 15\%$  with 90% confidence on an annual basis (production year). A drill grid spacing of 36 m applies at the various deposits gives a 90% confidence level as follows:

- Guajes East: 10.5%
- Guajes West: 11.4%
- El Limon North: 8.7%
- El Limon: 10.5%.

Mineral resources were classified as Indicated when a block was located within 28 m of the nearest composite and one additional composite from another drill hole was within 40 m. Drill hole spacing for Indicated Resources would broadly correspond to a 36 m x 36 m grid.

## 14.5.4 Measured Drill Hole Grid Spacing

AMEC calculated the confidence limits for determining appropriate drill grid spacing for Measured Mineral Resources. AMEC considers that Measured Mineral Resources should be known within  $\pm 15\%$  with 90% confidence on a quarterly basis (production quarter). A drill grid spacing of 20 m applied at the various deposits gives a 90% confidence level as follows:

•	Guajes East:	12.4%

- Guajes West: 13.6%
- El Limon North: 10.9%
- El Limon: 12.5%

Mineral resources are classified as Measured when a block was located within 15 m of the nearest composite and two composites from two additional drill holes was within 22 m. Drill hole spacing for Measured Resources would broadly correspond to a 20 m x 20 m grid.

#### 14.6 ASSESSMENT OF REASONABLE PROSPECTS FOR ECONOMIC EXTRACTION

To assess reasonable prospects of economic extraction Morelos Mineral Resource was confined within a Lerchs-Grossman optimization, key parameters of which were the geological and grade continuity of mineralization, mining costs, processing costs, metallurgical recoveries, general and administrative costs, a gold price of \$1,400/oz and a silver price of \$26/oz. No additional dilution or mining losses were considered within the pit shell.





Torex has been working on items relating to environmental, permitting, legal, title, taxation, socio-economic, and other items and in AMEC's opinion have not identified any issues that would materially affect the mineral resources.

## 14.6.1 Mining Costs

Mining costs for mineralized material and waste is \$1.65/tonne and were developed by SRK using first principle and worked from the ground up. AMEC is of the opinion that the mining costs developed by SRK are appropriate for the purpose of reasonable prospects for economic extraction and suitable for supporting mineral resource declaration.

## 14.6.2 Pit Slope Angle Analysis

Pit slope angles were developed by SRK for the El Limon and Guajes open pits. Slope designed was based on oriented core drilling and laboratory strength testing of a total of 11 geotechnical coreholes drilled to interest final pit walls. A geotechnical model was developed using the field and laboratory test data which served as the basis for slope stability modeling. Results of the geotechnical evaluation indicate that the rock mass at El Limon and in the Guajes highwall (south wall) are quite competent with relatively high intact rock strengths and widely spaced joints. The Guajes north wall (La Amarilla Fault hanging wall) is generally highly altered and significantly weaker than the remaining rock mass. Slopes in this area have been designed at lower angles to account for the weaker rock mass strength. Overall slope angles of approximately 50 degrees are recommended for the majority of El Limon and the Guajes highwall. The La Amarilla hanging wall zone at Guajes is recommended to have a maximum interramp angle of 38 degrees.

## 14.6.3 Processing, General and Administrative Costs

Preliminary estimate for process and general & administrative costs was provided to Torex for the purposes of defining economic resources. The costs provided to Torex by M3 were \$11.51/t for mineral processing and \$0.98/t for General and Administration costs (mineralized material only). These cost estimates are based on preliminary and ongoing design work for conventional CIL/CIP milling and preliminary general administration commonly in use. General & Administration costs do not include land ownership. AMEC is of the opinion that these costs are suitable for the purpose of reasonable expectation for economic extraction for developing a Mineral Resource pit shell.

AMEC considers that the mineralized material that displays geological and grade continuity, and which falls within an economic pit shell constructed using the parameters listed in Table 14-22 is likely to support economic extraction. Classification of mineralization within the conceptual pit that satisfies these requirements is dependent on lithology type due to the variable metallurgical recoveries by lithology type. Expected metal recoveries used in developing the Mineral Resource pit shell are listed in Section 13 of this report.





## Table 14-22: Parameters Used to Establish Open Pit Mineral Resource Cut-off Grade

Item	Unit	Amount
Gold price	\$/oz	1,400
Silver price	\$/oz	26
Average Au process recovery	%	87.33
Average Ag process recovery	%	33.1
Mineralized material mining cost	\$/t	1.65
Waste mining cost	\$/t	1.65
Processing cost	\$/t	11.51
G&A cost	\$/t	0.98
Cut-off grade	g/t Au	Variable

#### 14.7 MINERAL RESOURCE STATEMENT

Mr. Orbock is the QP for the mineral resource estimate at El Limon and Mr. Hertel is the QP for mineral resource estimate at Guajes. Mineral resources are reported as undiluted. AMEC cautions that mineral resources are not mineral reserves until they have demonstrated economic viability by at least a pre-feasibility study.

Mineral Resources as reported on the 4th of May, 2012 for the Project, based on open pit mining methods, is summarized in Table 14-23. Morelos Mineral Resources are reported using a cut-off of 0.5 g/t Au and have an effective date of 4 May, 2012. This table is obsolete and has been superseded by Table 14-24.

Deposit	Resource Category	Tonnes (Mt)	Gold Grade (g/t)	Gold Ounces (000's)	Silver Grade (g/t)	Silver Ounces (000's)
	Measured	6.1	3.29	643	4.07	795
El Limon	Indicated	26.0	2.98	2,492	6.35	5,313
	Sub Total M&I	32.1	3.04	3,135	5.92	6,108
Guajes	Measured	4.3	3.11	431	3.86	535
	Indicated	17.4	2.25	1,258	3.11	1,736
	Sub-total M&I	21.7	2.42	1,689	3.26	2,270
	Total M&I	53.8	2.79	4,824	4.84	8,379
El Limon	Inferred	8.3	2.0	543	4.7	1,255
Guajes	Inferred	2.5	1.0	77	1.7	135
	Total Inferred	10.7	2.0	620	4.0	1,390

 Table 14-23: Morelos Open Pit Mineral Resource Statement – Effective Date 4 May 2012

Notes to accompany Mineral Resource table

1. Mineral Resources are not Mineral Reserves until they have demonstrated economic viability





- 2. Mineral Resources are reported above a 0.5 g/t Au cut-off grade
- 3. Mineral Resources are reported as undiluted; gold grades are contained grades
- 4. Mineral Resources are reported within a conceptual open pit shell
- 5. Mineral Resources were developed in accordance with CIM (2010) guidelines
- 6. Mineral Resources are reported using a long-term gold price of \$1,400/oz and silver price of \$26/oz
- 7. Mining costs used are \$1.65 per tonne and processing costs at \$11.51 per tonne. General and administrative costs were estimated at \$0.98 per tonne.
- 8. Gold recoveries are dependent on grade and rock type and have a weighted average recovery of 87.33%.
- 9. Silver metallurgical recoveries by rock type show a weighted average of 33.1%
- 10. Assumed pit slope angles range from  $32^{\circ}$  to  $51^{\circ}$
- 11. Totals may be different due to rounding of numbers.
- 12. QP for El Limon is Edward J. C. Orbock III, RM SME and QP for Guajes is Mark Hertel, RM SME

After the public disclosure of Mineral Resources on 4 May, 2012, AMEC discovered incorrect SG assignments to the El Limon breccias and incorrect rotations of search ellipse for Pass 2 and Pass 3 for El Limon Szone 3 gold and silver grade interpolation. Correction of these two minor errors will result in a slight decrease in the reported Measured and Indicated Resource by approximately 80,000 (-0.15%), tonnes 18,000 (-0.37%) gold ounces and 22,000 (-0.26%) silver ounces. Inferred Resources will see no change in tonnes, a loss of approximately 1,000 (-0.17%) gold ounces and 5,000 (-0.37%) silver ounces. This error has an insignificant effect on the Mineral Resource estimate and corrections have been made to the block model to be used in the upcoming Feasibility Study. The adjusted results are shown in Table 14-24.

Deposit	Resource Category	Tonnes (Mt)	Gold Grade (g/t)	Gold Ounces (000's)	Silver Grade (g/t)	Silver Ounces (000's)
El Limon	Measured	6.1	3.29	641	4.08	795
	Indicated	26.0	2.97	2,477	6.34	5,292
	Sub Total M&I	32.1	3.03	3,117	5.91	6,086
Guajes	Measured	4.3	3.11	431	3.86	535
	Indicated	17.4	2.25	1,258	3.11	1,736
	Sub-total M&I	21.7	2.42	1,689	3.26	2,270
	Total M&I	53.7	2.78	4,806	4.84	8,357
El Limon	Inferred	8.3	2.0	542	4.7	1,250
Guajes	Inferred	2.5	1.0	77	1.7	135
	Total Inferred	10.7	1.8	619	4.0	1,385

 Table 14-24: Morelos Open Pit Mineral Resource Statement – Effective Date 11 June 2012

Notes to accompany Mineral Resource table

1. Mineral Resources are not Mineral Reserves until they have demonstrated economic viability

2. Mineral Resources are reported above a 0.5 g/t Au cut-off grade

3. Mineral Resources are reported as undiluted; gold grades are contained grades

- 4. Mineral Resources are reported within a conceptual open pit shell
- 5. Mineral Resources were developed in accordance with CIM (2010) guidelines

6. Mineral Resources are reported using a long-term gold price of \$1,400/oz and silver price of \$26/oz

7. Mining costs used is \$1.65 per tonne and processing costs at \$11.51 per tonne. General and administrative costs were estimated at US0.98\$ per tonne.

8. Gold recoveries are dependent on grade and rock type and have a weighted average recovery of 87.33%.

9. Silver metallurgical recoveries by rock type show a weighted average of 33%.

10. Assumed pit slope angles range from  $32^{\circ}$  to  $51^{\circ}$ 

11. Totals may be different due to rounding of numbers.

12. QP for El Limon is Edward J. C. Orbock III, RM SME and QP for Guajes is Mark Hertel, RM SME





#### 14.8 COMMENTS ON SECTION 14

The QPs are of the opinion that the Mineral Resources for the Project, which have been estimated using reverse circulation drill data, core drill data and channel sampling data, have been performed to industry best practices, and conform to the requirements of CIM (2010).





## **15 MINERAL RESERVE ESTIMATES**

This section is not relevant to this Technical Report.

## 16 MINING METHODS

This section is not relevant to this Technical Report.

#### **17 RECOVERY METHODS**

This section is not relevant to this Technical Report.

## **18 PROJECT INFRASTRUCTURE**

This section is not relevant to this Technical Report.

#### **19 MARKET STUDIES AND CONTRACTS**

This section is not relevant to this Technical Report.

## 20 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

This section is not relevant to this Technical Report.

## 21 CAPITAL AND OPERATING COSTS

This section is not relevant to this Technical Report.

## 22 ECONOMIC ANALYSIS

This section is not relevant to this Technical Report.





## 23 ADJACENT PROPERTIES

The QPs have not verified the following information, and have relied upon cited reports in the public domain and corporate websites for the data presented.

The Nukay district, in which the project is located, hosts two adjacent arcuate mineralized belts, with a gold belt lying to the east and on the concave margin of a massive sulphide belt. Both are approximately 30 km wide and over 100 km long, from northwest to southeast, between Mochitlán and Telolapan. Regional mineralization styles comprise skarn hosted and epithermal precious metal deposits and volcanogenic massive sulphides. Skarn-hosted and epithermal precious metal deposits (gold–silver) include Los Filos, Todos Santos, Nukay, Bermejal, Ana Paula and Mochitlán. Volcanogenic massive sulphide deposits (gold–silver–lead–zinc–copper) include Campo Seco, Farallon and Rey de Plata.

The closest deposits to the project are Ana Paula, operated by Newstrike Capital Inc. ("Newstrike") and Los Filos and Bermejal (Figure 23-1), operated by Goldcorp, Inc.

The Los Filos and Bermejal deposits are hosted within the southern portion of the former Morelos Mineral Reserve. Skarn-hosted gold–silver mineralization is associated with three diorite to granodiorite stocks that were emplaced in carbonate rocks of the upper Cretaceous Morelos Formation (Goldcorp Inc., 2009a). Mining, which commenced in 2008, employs open pit methods, at a mining rate of 24 Mt/a. Mineralization is processed by a heap leach operation that utilizes a multiple-lift, single-use leach pad (Goldcorp Inc., 2009a). Gold mineral resources for the Los Filos as of 31 December 2011 totaled 7.89 Mt at 1.95 g/t Au in the Measured Mineral Resource category, 42.70 Mt at 1.04 g/t Au in the Indicated Mineral Resource category, with an additional 158.37 Mt at 0.77 g/t Au in the Inferred Mineral Resource category. In addition to the mineral resources, Proven Mineral Reserves totaled 80.96 Mt at 0.96 g/t Au and Probable Mineral Reserves totaled 231.21 Mt at 0.71 g/t Au (Goldcorp Inc., 2011b).

In June 2010, Newstrike acquired the Ana Paula project as part of the Aurea Norte Concessions from Goldcorp which lies eight km to the northwest of the Morelos Property. Exploration work conducted by Newstrike, is documented in a published NI 43-101 technical report titled *Geological Report and Summary of Field Examinations, Ana Paula Project, Guerrero State, Mexico*, dated June 26, 2010. Gold mineralization is hosted in breccia zones, quartz monzonite, and Teloloapan volcanic, volcaniclastics, and carbonate units. In 2005, Goldcorp drilled 11 core holes for 3,689 m at San Jeronimo with intercepts of high-grade gold. An additional 69 drill holes were drilled in 2011 as part of a 36,000 m drill program. Newstrike's 2012 plans include a 45,000 m exploration drill program with four drill rigs on site.

Mineralization and mineral resources at the Newstrike and Goldcorp projects are not necessarily indicative of the mineralization or mineral resources observed at the Project.







Figure 23-1: Location Map, Los Filos Operation

Note: Figure from Goldcorp Inc., 2004. The Los Filos deposit is outside the project area





## 24 OTHER RELEVANT DATA AND INFORMATION

Work is currently underway on a feasibility study but not completed at the date of this report. This work is being carried out the by the following consultants. M3 Engineering & Technology Corporation ("M3") of Tucson, Arizona was retained as the lead consultant for completion of the feasibility study. M3 is also directly responsible for the metallurgy, the design of the process plant, related infrastructure and for project economics. M3 will be supported by a number of other consultants in various capacities. SRK Consulting (Canada) Inc. ("SRK") has been selected to complete the mine design for the deposits. AMEC Earth & Environment ("AMEC E&E") was engaged to perform the design work for waste and water management. Geology for the project will continue to be handled by AMEC Engineering & Construction Services Inc. out of Nevada ("AMEC E&C"). Heuristica Ambiental Consultoria was selected to complete environmental baseline work and prepare additional studies to be used in the planning and permitting phases. Golder Associates of Mississauga, Ontario ("Golder") was retained to complete a full Environmental Social Impact Study.





## 25 INTERPRETATION AND CONCLUSIONS

The following interpretations and conclusions are appropriate to the project.

#### 25.1 INTERPRETATIONS AND CONCLUSIONS DEVELOPED BY M3

Torex has completed negotiations for long term surface land tenure for the property but must complete registration with Mexican regulatory authorities.

The project metallurgical testing program indicates that conventional gold processing can be used for this project. The metallurgical testing done to date is sufficient for the current stage of the project.

#### 25.2 INTERPRETATIONS AND CONCLUSIONS DEVELOPED BY AMEC

In the opinion of the QPs, the following interpretations and conclusions, based on the Technical Report, can be reached:

- The project geology and mineralization is sufficiently well established and understood to support mineral resource estimation.
- Work programs included geological mapping, geophysical surveys, geochemical sampling, channel sampling, age dating, petrography, mineralogical studies, and Quick bird imagery, and drilling.
- Drilling between 1997 and 2011 comprised 1,202 drill holes (197,980 m), including 1,141 core holes (188,023 m) and 61 RC holes (9,957 m). Forty-three surface channel samples (4,162 m) were also collected from El Limon Norte Oxide and El Limon Sur.
- Completed exploration programs were appropriate to the mineralization style.
- Drill data collected by Torex and MML meets industry standards for exploration of gold and silver deposits. No material factors were identified with the drill data collection that could affect Mineral Resource estimation. Core methods sampling employed by Torex and MML are in line with industry norms. Sample preparation for samples that support Mineral Resource estimation has followed a similar procedure for the Torex and MML drill programs. The Torex and MML core samples were analyzed by reputable independent, accredited laboratories using analytical methods appropriate to the gold and silver concentration. Drill data are typically verified by AMEC prior to Mineral Resource estimation, by running a software program check.
- Density assignments were based on results from wax coating analytical methods. All previous density results from water immersion method were rejected as potentially being biased high for skarn and intrusive group lithologies.
- Drill sampling has been adequately spaced to first define, then infill, gold anomalies to produce prospect-scale and deposit-scale drill data. Drill hole spacing varies with depth.





Drill hole spacing increases with depth as the number of holes decrease and holes deviate apart. Drilling is more widely-spaced on the edges of the El Limon and Guajes deposits

- Sample data collected adequately reflect deposit dimensions, true widths of mineralization, and the style of the deposits.
- Gold grades were estimated using ordinary kriging. Mineralization was confined within a conceptual open pit shell, which used economic parameters developed by SRK and M3 from first principles. AMEC has reviewed the economic parameters used in the Mineral Resource and is of the opinion that they are reasonable for supporting Mineral Resource declaration within a conceptual open pit shell.
- To date, two major deposits, and a number of prospects and exploration targets have been identified.
- There is sufficient area within the Project to host an open pit mining operation including any proposed open pit, waste dumps, and leach pads.
- The Project retains significant exploration potential, and additional work is planned.

## 25.3 RISK AND OPPORTUNITY ASSESSMENT

M3 and AMEC identified major risks and opportunities associated with the mineral resource estimates and any future project development.

# 25.4 **RISKS IDENTIFIED BY M3**

The El Limon, Guajes East, and Guajes West deposits are located in rugged terrain. Developing access routes to the mining operations will be challenging, and will require significant time prior to production to establish.

Completion of registration of land tenure is a key requirement for further advancement of the project.

The project is located in an economically-depressed area and the community of Nuevo Balsas was characterized as fractured and fragile. The community and the region suffer from lack of economic activity and jobs and poor health and education facilities. Community engagement and a process of communication with the communities in the area of influence of the project will be critical to project development.

# 25.4.1 Risks Identified by AMEC

Mineral Resources in Section 14 are reported as undiluted. Depending on mining rate and equipment selection, the amount of dilution could be substantial. This in turn may have a significant impact on the amount of tonnes milled and head grades sent to the mill in any projected mining scenario.





Both deposits generally have zones of Inferred Resources along the outer edges and at depth of the deposits due to wider spaced drilling. The confidence in the skarn mineralization in these portions of the pit is lower due to the wider-spaced drilling in these areas

Three deep drill holes at El Limon have extended high-grade gold mineralization to a depth of 350 meters from surface. Additional drill holes along strike and dip are recommended to further define the extent of this mineralization.

The Morelos deposit is characterized with high grade gold values in relatively few numbers of samples. If the modeled volume or grades from these high grade intercepts are not present when mined, it could impact the total gold and silver ounces recovered

## 25.5 **OPPORTUNITIES IDENTIFIED BY AMEC**

There is potential for upgrades in mineral resource confidence categories when infill drilling is completed at Guajes and El Limon. An infill drilling program should be developed to upgrade Inferred Resources along the edges of the Mineral Resource pit and in the area along the ridge line of El Limon Sur.

The current project mineral resources are estimated for two deposits. However, exploration programs have identified a further six prospects, all of which have significant exploration potential to host skarn-style gold mineralization. In addition to these known targets, the project has considerable remaining grass-roots gold exploration potential. Only a small percentage (30%) of the geologically-prospective area around the margins of the intrusion has been tested to date. The contact zone of the stock and sedimentary rocks remains highly prospective. The 'favorable' Morelos/Mezcala contact horizon projects well south of Guajes, across the river, and bends east along the entire Media Luna ridge; this entire contact zone adjacent to the principal stock contact is also highly prospective.





#### 26 **RECOMMENDATIONS**

M3 and AMEC consider that there are sufficient data available for Torex to proceed with the following programs. The following Work Program 1 was developed by AMEC for the June 18, 2012 Technical Report.

Program 1 is currently designed to upgrade Inferred Resources to a higher classification. Program 2 comprises a feasibility study and is independent of Program 1 results.

#### **26.1** WORK PROGRAM 1

#### 26.1.1 Develop Infill and Step-Out Drill Program

Torex should review areas on the periphery of the known mineralized areas where mineralization has been interpreted to 'end' based on the results of a single drill hole, or where known mineralization has not been adequately closed-off by drilling. Assuming a total drilling cost, including assays, of \$200/m, AMEC has estimated that approximately 5,000 m of drilling, in 30 drill holes, may be required. Estimated cost: \$1 M.

Drill additional step-out holes around DPV-07, TMP-1296, TMP-1315 to confirm continuity and increase the confidence of the deep, high-grade gold intercepts at these depths. Assuming a total drilling cost, including assays, of \$200/m, AMEC has estimated that approximately 6,000 m of drilling, in 12 drill holes, may be required. Estimated cost: \$1.2 M.

Infill Drill El Limon Sur along the ridge line, AMEC estimates that approximately 15,000 m of drilling in 75 drill holes may be required. Estimated cost is \$3 M.

#### 26.1.2 Resource Models

On review of the geological logging of rock codes, AMEC noted high-grade assays associated with marble and intrusive that is contiguous with high-grade skarn zones. Geological logging of these zones should be revisited to ensure accuracy of original logging. Estimated cost: \$10,000-\$20,000.

Some sample intervals were noted to be missing relevant lithology code. The missing lithology code should be established, either from the original geological logs, or by core re-logging where appropriate. Estimated cost: \$10,000–\$20,000.

Review the assay database, and identify which composites used in the resource model are flagged as "mineralized", and identify composites in contact with mineralization-grade composites. Samples within such composites that have not been fire assayed should then be fire assayed regardless of their aqua regia gold grade. Estimated cost: \$25,000–US40,000.

Develop an endoskarn-exoskarn geological model to assist in future resource modeling work.





## 26.1.3 Metallurgical Testwork

No further metallurgical testing is recommended to evaluate specific details for a potential process plant design at this time.

#### 26.1.4 Infrastructure

A study is in progress to assess the most appropriate infrastructure locations. This will be presented in a subsequent technical report.

#### 26.1.5 Site Survey

The existing aerial survey is not accurate enough for development purposes. A new survey is in process with sufficient accuracy to support engineering design. In addition, an access road land survey and a camp site land survey will be required. The estimated cost of these surveys is as follows:

- Aerial: \$100,000
- Access Road Land Survey: \$300,000
- Camp Site Land Survey: \$6,000

In total and including taxes and other fees, the cost of all surveying is expected to be around \$450,000.

#### 26.1.6 Exploration

Given the size of the project, and the abundance of prospective areas, a grass-roots exploration program should be initiated. Key aims of the program area continued exploration of previously-identified outlying prospects and exploration of outlying unexplored or lightly-explored target areas based on reconnaissance knowledge and generation of new targets through further geological work.

For the first twelve months of exploration work, exploration work programs should include geological data compilation (\$50,000), geophysical and related surveys (\$500,000), provision for work and geological crews (\$850,000), road and drill pad construction (\$200,000), and security and land management (\$100,000). In addition, AMEC has made provision for management costs and consultant hire (\$US200,000). Estimated cost of exploration programs prior to drilling: \$1.9 M.

AMEC has allocated about 18,000 m to grass-roots exploration drilling, assuming a total drilling cost, including assays, of \$200/m, in approximately 110 drill holes. Estimated total cost: \$3.6 M.

## 26.2 PHASE 2 WORK PROGRAM

AMEC estimates that a feasibility study on the Morelos project could take between twelve and eighteen months to complete, and range in cost from \$3 M to \$10 M, where \$3 M is a typical





feasibility study cost estimate using third-party consultants, and \$10 M represents an upper limit assuming significant additional work could be required.

Such a study will not be predicated on the results of the recommended exploration drilling, but results of the drilling should be continuously monitored in case a significant new discovery is made during the term of the feasibility study that could be incorporated into the study.

In addition to the feasibility study, approximately \$1 M to \$3 M may be required to support an environmental impact study.

The authors of this report have not attempted to estimate additional costs associated with permitting the project. Such costs will be dependent on the outcome of talks and negotiations with local stakeholders, and until such consultation has been undertaken, no reliable estimate of the permitting costs is possible. This feasibility study is in process. This will be presented in a subsequent technical report.

## 26.2.1 Land Tenure

It is recommended that Torex continue to advance a surface land acquisition program. This is a key component to developing the project and continuing the environmental permitting process. The cost of land must be negotiated with the individual stake holders and cannot be estimated for this study.

#### 26.2.2 Water Resource Evaluation

It is recommended that Torex continue their current water resource evaluation in the area of the project. Torex has already contracted Ideas En Agua (Hermosillo, Mexico) to further evaluate the water source. Torex is awaiting final documentation of the water concession from CONAGUA.





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