Rock solid resources.
Proven advice.™

TINKA RESOURCES LIMITED

TECHNICAL REPORT ON THE MINERAL RESOURCE ESTIMATE FOR THE AYAWILCA PROPERTY, DEPARTMENT OF PASCO, PERU

NI 43-101 Report

Qualified Person:
David Ross, P.Geo.

December 11, 2017

RPA 55 University Ave. Suite 501 I Toronto, ON, Canada M5J 2H7 I **T** + 1 (416) 947 0907 **www.rpacan.com**

Report Control Form

Document Title	Technical Report on the Mineral Resource Estimate for the Ayawilca Property, Department of Pasco, Peru		
Client Name & Address	Tinka Resources Limited 1305 - 1090 West Georgia Street Vancouver, British Columbia V6E 3V7		
Document Reference	Project #2876	***Status & Issue No.***	FINAL Version
Issue Date	December 11, 2017		
Lead Author	David Ross	(Signed)	
Peer Reviewer	Luke Evans	(Signed)	
Project Manager Approval	Luke Evans	(Signed)	
Project Director Approval	Deborah A. McCombe	(Signed)	

Report Distribution

Name	No. of Copies
Client	
RPA Filing	1 (project box)

Roscoe Postle Associates Inc.
55 University Avenue, Suite 501
Toronto, ON M5J 2H7
Canada
Tel: +1 416 947 0907
Fax: +1 416 947 0395
mining@rpacan.com

TABLE OF CONTENTS

PAGE

LIST OF TABLES

LIST OF FIGURES

PAGE

1 SUMMARY

EXECUTIVE SUMMARY

Roscoe Postle Associates Inc. (RPA) was retained by Tinka Resources Limited (Tinka) to prepare an independent Technical Report on the Ayawilca Property (the Property), located in central Peru. The purpose of this report is to support the disclosure of an updated Mineral Resource estimate for the Property. This Technical Report conforms to NI 43-101 Standards of Disclosure for Mineral Projects. RPA visited the Property and other project related facilities most recently from January 11 to 13, 2016.

Tinka is a publicly listed junior resource acquisition and exploration company trading under the symbol TSXV:TK on the Canadian TSX Venture Exchange. Its corporate office is located in Vancouver, Canada. Tinka's focus is on its 100%-owned Ayawilca Property in the zinc-lead-silver belt of central Peru, located 200 km northeast of Lima. The Property, located 40 km from Peru's largest historic zinc mine, Cerro de Pasco, has three separate mineral zones: the Ayawilca Zinc Zone (zinc-indium-silver-lead); the Ayawilca Tin Zone (tin-copper-silver); and the Colquipucro silver oxide deposit. The Property is at the exploration stage, with a focus on the base metal (zinc, tin, copper) mineralization. Both the Zinc Zone and Tin Zone are “blind” lying beneath 150 m to 200 m of sandstone cover. The Zinc Zone mineralization is hosted by sulphides in altered limestone. The Colquipucro silver deposit is located from surface to a depth of approximately 80 m in sandstone.

The updated Mineral Resource estimates for the Ayawilca Zinc Zone and the Ayawilca Tin Zone, with the effective date of October 10, 2017, are listed in Tables 1-1 and 1-2, respectively. The Mineral Resources of the two Ayawilca zones are reported separately since the zones host different metals and are spatially separated. The Mineral Resource estimate for the Colquipucro silver deposit, located 1.5 km from the Ayawilca mineralized zones, remains unchanged since the last resource update and is listed in Table 1-3. The Mineral Resource estimates conform to Canadian Institute of Mining, Metallurgy and Petroleum Definition Standards for Mineral Resources and Mineral Reserves dated May 10, 2014 (CIM (2014) definitions).

TABLE 1-1 ZINC ZONE INFERRED MINERAL RESOURCES AT AYAWILCA AS OF OCTOBER 10, 2017
Tinka Resources Limited – Ayawilca Property

Area	Tonnage (Mt)	ZnEq (%)	Zn (%)	Pb (%)	In (g/t)	Ag (g/t)	Zn (Mlb)	Pb (Mlb)	In (t)	Ag (Moz)
South	13.3	9.5	7.6	0.2	118	25	2,228	61	1,561	10.6
West	9.0	7.2	6.1	0.2	64	14	1,206	37	577	4.0
Central	13.0	5.7	4.7	0.3	54	13	1,338	77	704	5.4
East	7.5	6.2	5.1	0.2	69	13	846	34	519	3.1
Total Zinc Zone	**42.7**	**7.3**	**6.0**	**0.2**	**79**	**17**	**5,617**	**209**	**3,361**	**23.1**

Notes:
1. CIM (2014) definitions were followed for Mineral Resources.
2. Mineral Resources are reported above a cut-off NSR value of US$55 per tonne.
3. The NSR value was based on estimated metallurgical recoveries, assumed metal prices and smelter terms, which include payable factors, treatment charges, penalties, and refining charges. Metal price assumptions were: US$1.15/lb Zn, US$300/kg In, US$18/oz Ag, and US$1.10/lb Pb. Metal recovery assumptions were: 90% Zn, 75% In, 60% Ag, and 75% Pb. The NSR value for each block was calculated using the following NSR factors: US$15.34 per % Zn, US$6.15 per % Pb, US$0.18 per gram In, and US$0.27 per gram Ag.
4. The NSR value was calculated using the following formula:
   NSR = [Zn(%)*US$15.34+Pb(%)*US$6.15+In(g/t)*US$0.18+Ag(g/t)*US$0.27]
5. The zinc equivalent (ZnEq) value was calculated using the following formula: ZnEq = NSR/US$15.34.
6. Numbers may not add due to rounding.

TABLE 1-2 TIN ZONE INFERRED MINERAL RESOURCES AT AYAWILCA AS OF OCTOBER 10, 2017
Tinka Resources Limited – Ayawilca Property

	Tonnage (Mt)	SnEq (%)	Sn (%)	Cu (%)	Ag (g/t)	Sn (Mlb)	Cu (Mlb)	Ag (Moz)
Tin Zone	10.5	0.70	0.63	0.23	12	145	53	4.2

Notes:
1. CIM (2014) definitions were followed for Mineral Resources.
2. Mineral Resources are reported above a cut-off NSR value of US$55 per tonne.
3. The NSR grade was based on estimated metallurgical recoveries, assumed metal prices and smelter terms, which include payable factors, treatment charges, penalties, and refining charges. Metal price assumptions were: US$9.50/lb Sn, US$3/lb Cu, and US$18/oz Ag. Metal recovery assumptions were: 86% Sn, 75% Cu, and 60% Ag. The NSR value for each block was calculated using the following NSR factors: US$164.53 per % Sn, US$39.95 per % Cu, and US$0.27 per gram Ag.
4. The NSR value was calculated using the following formula:
   NSR = [Sn(%)*US$164.53+Cu(%)*US$39.95+Ag(g/t)*US$0.27].
5. The tin equivalent (SnEq) value was calculated using the following formula:
   SnEq = NSR/US$164.53
6. Numbers may not add due to rounding.

TABLE 1-3 MINERAL RESOURCES AT COLQUIPUCRO AS OF MAY 25, 2016
Tinka Resources Limited – Ayawilca Property

Class/Zone	Tonnage (Mt)	Ag (g/t)	Ag (Moz)
Indicated			
High Grade Lenses	2.9	112	10.4
Low Grade Halo	4.5	27	3.9
Total Indicated	**7.4**	**60**	**14.3**
Inferred			
High Grade Lenses	2.2	105	7.5
Low Grade Halo	6.2	28	5.7
Total Inferred	**8.5**	**48**	**13.2**

Notes:
1. CIM (2014) definitions were followed for Mineral Resources.
2. Mineral Resources are reported within a preliminary pit shell and above a cut-off grade of 15 g/t Ag for the Low Grade Halo, and 60 g/t Ag for the High Grade Lenses.
3. The cut-off grade is based on a price of US$24/oz Ag.
4. Numbers may not add due to rounding.

RPA is not aware of any environmental, permitting, legal, title, taxation, socio-political, marketing, and other relevant factors that would affect the Ayawilca and Colquipucro Mineral Resource estimates.

CONCLUSIONS

The Property is located in the Central Peru polymetallic belt and is at the exploration stage. The Ayawilca and Colquipucro deposits are 1.5 km apart but are hosted in different stratigraphic units and will potentially be mined by different methods, underground for the Ayawilca deposits and open pit for the Colquipucro deposit.

The Ayawilca Zinc and Tin Zones are hosted within a brecciated limestone unit approximately 200 m thick belonging to the Pucará Group of Jurassic-Triassic age. The mineralization is “blind” lying beneath 150 m to 200 m of sandstone cover. The Zinc Zone mineralization is in the form of multiple, gently dipping sphalerite-pyrite (pyrrhotite-magnetite-carbonate) sulphide lenses, or “mantos”, within four structural areas (South, West, Central, and East). The mantos merge into thicker zones or “chimneys” at South and West Ayawilca. The Tin Zone mineralization occurs as shallow to flat dipping pyrrhotite-rich mantos at the base of the Pucará limestone, typically lying immediately above the underlying basement (phyllite). This mineralization is predominantly hosted by cassiterite (a tin oxide) while copper is predominantly hosted by chalcopyrite.

The regional setting, geometry, and mineralogy suggest that Ayawilca is a carbonate replacement deposit (CRD), similar to several other deposits in the Central Peru polymetallic belt, including Cerro de Pasco. Mineralization is believed to be Miocene in age, possibly associated with an intrusion at depth which has not been identified.

The Colquipucro silver oxide deposit is hosted primarily within the Goyllarisquizga Formation quartz sandstone of Cretaceous age, which lies immediately above the Pucará Group limestone. Historical mining focused on a series of en-echelon east-west trending, steeply north dipping faults and veins. In 2006, mapping and sampling by Tinka showed lower grade mineralization in narrow fractures between the high grade veins. The deposit has been modelled to include ten north dipping high grade zones, a gently dipping basal zone, and a low grade halo that encompasses all high grade zones. Overall, the deposit is 550 m in the north-south direction by 380 m in the east-west direction by 75 m thick. Weathering at Colquipucro is extensive. Preliminary metallurgical test work suggests that the mineralization is amenable to heap leach recovery methods. Colquipucro is the only known and documented sandstone-hosted oxide silver deposit in Peru. Colquipucro is tentatively classified as a disseminated, intermediate-sulphidation epithermal deposit (now oxidized) lying above and on the margin of the deeper, sulphide-rich deposit.

Tinka's protocols for drilling, sampling, analysis, security, and database management meet industry standard practices. The drill hole database was verified by RPA and is suitable for Mineral Resource estimation work.

RPA estimated Mineral Resources for the Ayawilca deposit using the drill results available to October 10, 2017. Mineral Resources at Ayawilca are reported on the basis of a possible underground mining scenario at a NSR cut-off of US$55/t (approximately 3.6% ZnEq cut-off grade for the Zinc Zone and approximately 0.33% SnEq for the Tin Zone). Updated Inferred Mineral Resources at the Ayawilca Zinc Zone are estimated to total 42.7 million tonnes at average grades of 6.0% Zn, 79 g/t In, 17 g/t Ag, and 0.2% Pb (7.3% ZnEq). Inferred Mineral Resources at the Ayawilca Tin Zone are estimated to total 10.5 million tonnes at average grades of 0.63% Sn, 0.23% Cu, and 12 g/t Ag (0.70% SnEq). The two Ayawilca resources are reported separately, since they host different metals and are spatially separated.

There has been no drilling at Colquipucro since the February 23, 2015 Mineral Resource estimate and the Mineral Resources remain current. They are reported within a preliminary pit shell generated in Whittle software at a cut-off of 15 g/t Ag. Indicated Mineral Resources at Colquipucro are estimated to total 7.4 million tonnes at an average grade of 60 g/t Ag containing 14.3 million ounces of silver. Inferred Mineral Resources are estimated to total 8.5 million tonnes at an average grade of 48 g/t Ag containing 13.2 million ounces of silver. More than half the contained metal is hosted in the high grade lenses, at average grades greater than 100 g/t Ag. A small amount of mineralization was not captured by the Whittle shell. No Mineral Reserves have yet been estimated on the Property.

Drill hole A17-082, located at the Chaucha area, one kilometre east of Colquipucro, intersected approximately 92 m of massive hematite ± magnetite ± pyrite hosted in brecciated limestone. No significant zinc mineralization was encountered in this zone, however, the presence of significant massive iron oxides and sulphides is a new style of mineralization at the Property.

RECOMMENDATIONS

The Property hosts three deposits with different styles of mineralization and primary commodities. Each deposit, and the Property overall, merits considerable exploration and development work. The primary objectives of the program proposed by Tinka are to expand the Ayawilca Zinc and Tin Zone resources, as well as advance the project through metallurgical/mining desktop studies and a preliminary economic assessment (PEA). RPA concurs with Tinka's planned work program and budget of $7.0 million (Table 1-4) for 2018. Work is expected to include:

- 10,000 m of drilling to explore for additional mineralization at the Ayawilca deposits;
- 2,000 m of drilling for a property-wide exploration;
- metallurgical test work focusing on zinc and tin recovery;
- mining desktop and engineering studies; and
- a PEA.

TABLE 1-4 PROPOSED PHASE 1 BUDGET
Tinka Resources Limited – Ayawilca Property

Item	$M
Drilling (12,000 m at $300/m)	3.6
Desktop mining and Engineering Studies	0.3
Metallurgical Studies	0.3
Permitting, Environmental & Community	0.8
Preliminary Economic Assessment	0.5
Operating Costs/Office	1.5
Total	7.0

A recommended Phase 2 budget of $9.0 million for an additional one year's work program would be contingent on the Phase 1 results. A Phase 2 work program would include additional infill drilling ($4.5 million), metallurgical and engineering studies ($1.0 million), permitting/environment/community ($0.8 million), a pre-feasibility study ($1.0 million), operating costs/office ($1.5 million), and other related work ($0.2 million).

TECHNICAL SUMMARY

PROPERTY DESCRIPTION AND LOCATION

The Property is located 200 km northeast of Lima, between elevations 3,300 MASL and 4,400 MASL, within the District of San Pedro de Pillao, Province of Daniel Alcides Carrion, in the Department of Pasco. The Property is centred at UTM 333,500 mE by 8,848,000 mN (PSAD56 datum, Zone 18S) on national map sheet 21-J. The current Mineral Resources are within the community boundaries of Yanacocha, San Pedro de Pillao, and Huarautambo.

LAND TENURE

The Property consists of 56 contiguous mineral concessions and three mining claims covering an area of 17,340 ha, all registered in the name, and 100% owned by, Tinka Resources S.A.C., a 100% owned Peruvian subsidiary of Tinka. During 2016, Peru changed the datum used in its mineral cadastre from PSAD56 to WGS84, converting all existing claims to the new coordinate system. All claims staked after June 2016 must use the new datum, generating overlaps with pre-2016 concessions. Existing concessions have precedence over new claims, which will be reduced in size accordingly.

Tinka formed an exploration alliance with Sierra Peru Pty Ltd (Sierra) in 2004, whereby Sierra provided to Tinka first right of refusal to certain exploration targets for a two year period, including the Ayawilca claim area. Sierra will be entitled to a 1% net smelter return royalty (NSR) on any production. This NSR can be purchased by Tinka at any time for US$1 million.

EXISTING INFRASTRUCTURE

The only permanent infrastructure on the Property is a well maintained regional unpaved road and a network of exploration drill roads used to access drill sites and a small exploration camp. The power line that supplies the Antamina Mine, located approximately 100 km to the northwest, bisects the Property. There is a steady source of water for exploration activities from streams, springs, and lakes.

HISTORY

The Colquipucro deposit was mined by the Spanish historically, as evidenced by the numerous small adits, an old stone camp, and a stone chimney. More recent mining took place between the 1920s and 1950s. From the mid-1940s to 2005, intermittent exploration activities by a previous mining company included mapping, tunnelling, trench sampling, and the drilling of four holes. In 2005, the mining claims lapsed and became available. Tinka placed new claims over the old mining claims.

Available records reviewed by Tinka list the production at Colquipucro to have been: 1,397 kg of silver in 1924, 10.7 kg of gold and 7,705 kg of silver in 1930, and 97 kg of silver in 1949.

No known Mineral Resource or Mineral Reserve estimates have been prepared historically by previous owners of the Property.

GEOLOGY AND MINERALIZATION

The geology of Peru, from the Peru-Chile Trench in the Pacific to the Brazilian Shield, is defined as three major parallel regions, from west to east: the Andean Forearc, the High Andes, and the Andean Foreland. All three regions formed during Meso-Cenozoic evolution of the Central Andes. The Property lies within the High Andes region and is underlain by sedimentary and volcanic stratigraphy ranging from late Proterozoic to lower Cretaceous age. The entire sequence is folded and thrusted, believed to pre-date the mineralization. Later presyn mineral faulting is predominantly oriented in a northeast-southwest direction and is interpreted to be trans-tensional.

The Ayawilca Zinc and Tin Zones are primarily hosted within a brecciated limestone unit belonging to the Mesozoic-age Pucará Group. Mineralization is "blind" lying beneath 150 m to 200 m of sandstone. Zinc mineralization occurs as massive to semi-massive sulphide replacements within the limestone. The mineralized zones are generally gently dipping forming "mantos", replacing favourable sedimentary units. The mantos merge to form thick "chimneys" of higher grade mineralization at South and West Ayawilca. Zinc occurs as sulphide impregnations (marmatite sphalerite) accompanied by abundant pyrite, pyrrhotite, chlorite, iron carbonate, and magnetite. Tin mineralization, believed to predate the zinc, is hosted as disseminated cassiterite with chalcopyrite in massive to semi-massive pyrrhotite lenses located underneath and spatially separated from the zinc mineralization.

The Colquipucro deposit is hosted primarily within the overlying Goyllarisquizga Group and, to a lesser extent, in the Pucará limestone. The silver mineralization is hosted in quartz sandstones occurring with abundant iron oxides (goethite, jarosite) and manganese oxides in fractures and disseminations within the pore spaces of the sandstones.

EXPLORATION STATUS

Exploration work by Tinka included geological mapping; soil, trench, and underground sampling; geophysical surveys; and drilling. A total of 166 diamond drill holes for approximately 50,831.2 m have been completed by Tinka and its predecessors at both the Ayawilca and Colquipucro deposits.

MINERAL RESOURCES

The Ayawilca resource database includes 116 drill holes totalling 41,828.7 m of drilling. All holes used in the resource estimation were drilled by Tinka. A set of cross-sections and level plans were used to construct interpreted three-dimensional wireframe models at a nominal cut-off value of $50/t for both the Zinc and Tin Zones. Prior to compositing to two metre lengths, high zinc, tin, indium, and silver values were cut to 25%, 4%, 500 g/t, and 100 g/t, respectively. Block model grades within the wireframe models were interpolated by inverse distance cubed. Lead grades are low but it is assumed that lead and silver will be recovered in a lead concentrate. Density was estimated to be 3.6 t/m^3 for the Zinc Zones and 3.9 t/m^3 for the Tin

Zones based on a number of density measurements of typical mineralization from each zone. All Mineral Resources at Ayawilca were assigned to the Inferred category due to the widely spaced drilling.

Mineral Resources at Ayawilca are reported on the basis of a possible underground mining scenario (Tables 1-1 and 1-2).

The Colquipucro resource database includes 8,003 m in 50 drill holes. There has been no drilling at the Colquipucro deposit since the Mineral Resource estimate completed in 2015 and therefore that Mineral Resource estimate remains current. A set of cross-sections and level plans were interpreted to construct three-dimensional wireframe models at a cut-off grade of 60 g/t Ag for the high grade lenses and 15 g/t Ag for the low grade halo mineralization. Prior to compositing to two metre lengths, high silver values were cut to 360 g/t Ag in the high grade lenses, and 120 g/t Ag in the low grade halo. Block model grades within the wireframe models were interpolated by inverse distance cubed. Density values were estimated from 41 measurements to be 2.48 t/m^3. Classification into the Indicated and Inferred categories was guided by the drill hole spacing and the continuity of the mineralized zones.

Mineral Resources at Colquipucro are reported within a preliminary pit shell generated in Whittle software at a reporting cut-off grade of 15 g/t Ag for the Low Grade Halo and 60 g/t Ag for the High Grade Lenses (Table 1-3).

There are no current Mineral Reserves estimated at the Ayawilca and Colquipucro deposits.

2 INTRODUCTION

Roscoe Postle Associates Inc. (RPA) was retained by Tinka Resources Limited (Tinka) to prepare an independent Technical Report on the Ayawilca Property (the Property), located in central Peru. The purpose of this report is to support the disclosure of an updated Mineral Resource estimate for the Property. This Technical Report conforms to NI 43-101 Standards of Disclosure for Mineral Projects.

Tinka is a publicly listed junior resource acquisition and exploration company trading under the symbol TSXV:TK on the Canadian TSX Venture Exchange. Its corporate office is located in Vancouver, Canada.

RPA has previously prepared two NI 43-101 Technical Report on the Property effective February 23, 2015 (RPA, 2015) and May 25, 2016 (RPA, 2016). Since the 2016 estimate, Tinka has carried out 17,600 m of drilling on the Ayawilca Zinc and Tin Zones. No further work has been completed on the Colquipucro deposit and the Colquipucro Mineral Resource estimate remains unchanged.

SOURCES OF INFORMATION

David Ross, P.Geo., RPA Principal Geologist, visited the Property, project office, and drill core handling and storage facilities on December 11 to 14, 2014 and again on January 11 to 13, 2016. Technical documents and reports on the Property were reviewed at the site and additional information was obtained as required both prior to and subsequent to the site visit. Mr. Ross held discussions with Tinka personnel during and subsequent to the site visit as follows:

- Dr. Graham Carman, FAUSIMM, President, CEO and Director
- Mr. Alvaro Fernandez-Baca, P.Geo., V.P. Exploration
- Mr. Luis Giraldo, Senior Geologist
- Mr. Richard Chaiña, Senior Project Geologist

The documentation reviewed, and other sources of information, are listed at the end of this report in Section 27 References.

LIST OF ABBREVIATIONS

Units of measurement used in this report conform to the metric system. All currency in this report is US dollars (US$) unless otherwise noted.

a	annum
A	ampere
bbl	barrels
btu	British thermal units
°C	degree Celsius
C$	Canadian dollars
cal	calorie
cfm	cubic feet per minute
cm	centimetre
cm^2	square centimetre
d	day
dia	diameter
dmt	dry metric tonne
dwt	dead-weight ton
°F	degree Fahrenheit
ft	foot
ft^2	square foot
ft^3	cubic foot
ft/s	foot per second
g	gram
G	giga (billion)
Gal	Imperial gallon
g/L	gram per litre
Gpm	Imperial gallons per minute
g/t	gram per tonne
gr/ft^3	grain per cubic foot
gr/m^3	grain per cubic metre
ha	hectare
hp	horsepower
hr	hour
Hz	hertz
in.	inch
in^2	square inch
J	joule
k	kilo (thousand)
kcal	kilocalorie
kg	kilogram
km	kilometre
km^2	square kilometre
km/h	kilometre per hour
kPa	kilopascal
kVA	kilovolt-amperes
kW	kilowatt
kWh	kilowatt-hour
L	litre
lb	pound
L/s	litres per second
m	metre
M	mega (million); molar
m^2	square metre
m^3	cubic metre
µ	micron
MASL	metres above sea level
µg	microgram
m^3/h	cubic metres per hour
mi	mile
min	minute
µm	micrometre
mm	millimetre
mph	miles per hour
MVA	megavolt-amperes
MW	megawatt
MWh	megawatt-hour
oz	Troy ounce (31.1035g)
oz/st, opt	ounce per short ton
ppb	part per billion
ppm	part per million
psia	pound per square inch absolute
psig	pound per square inch gauge
RL	relative elevation
s	second
st	short ton
stpa	short ton per year
stpd	short ton per day
t	metric tonne
tpa	metric tonne per year
tpd	metric tonne per day
US$	United States dollar
USg	United States gallon
USgpm	US gallon per minute
V	volt
W	watt
wmt	wet metric tonne
wt%	weight percent
yd^3	cubic yard
yr	year

3 RELIANCE ON OTHER EXPERTS

This report has been prepared by RPA for Tinka. The information, conclusions, opinions, and estimates contained herein are based on:

- Information available to RPA at the time of preparation of this report,
- Assumptions, conditions, and qualifications as set forth in this report, and
- Data, reports, and other information supplied by Tinka and other third party sources.

For the purpose of this report, RPA has relied on ownership information provided by Tinka. The client has relied on an opinion dated December 7, 2017 by Lima based law firm Dentons Gallo Barrios Pickmann SCRL. This opinion is relied on in Section 4 and the Summary of this report. RPA has not researched property title or mineral rights for the Ayawilca Property and expresses no opinion as to the ownership status of the Property.

Except for the purposes legislated under provincial securities laws, any use of this report by any third party is at that party's sole risk.

4 PROPERTY DESCRIPTION AND LOCATION

The Ayawilca Property is located 200 km northeast of Lima, between elevations 3,300 MASL and 4,400 MASL, within the District of San Pedro de Pillao, Province of Daniel Alcides Carrion, in the Department of Pasco, Peru (Figure 4-1). The Property is centred at UTM 333,500 mE by 8,848,000 mN (PSAD56 datum, Zone 18S) on national map sheet 21-J. The Ayawilca deposits are within the community boundaries Yanacocha, San Pedro de Pillao, and Huarautambo.

LAND TENURE

The Property consists of 56 contiguous mineral concessions and three mining claims covering an area of 17,340 ha. The concessions are owned 100% by Tinka (Figure 4-2). Table 4-1 lists the subject concessions along with their surface areas and date of staking. All are registered in the name Tinka Resources S.A.C, within map 21-J, Zone 18S. Tinka Resources S.A.C. is 100% owned by Tinka. The opinion by Lima based law firm Dentons Gallo Barrios Pickmann SCRL dated December 7, 2017, reports that all claims are in good standing.

TABLE 4-1 LIST OF MINERAL CONCESSIONS
Tinka Resources Limited – Ayawilca Property

Code	Name	Area (ha)	Date Filed	Type
010350105	TK COL 1	378	10/11/2005	Concession
010350205	TK COL 2	140	10/11/2005	Concession
010350305	TK COL 3	72	10/11/2005	Concession
010350405	TK COL 4	6	10/11/2005	Concession
010350505	TK COL 5	18	10/11/2005	Concession
010350605	TK COL 6	75	10/11/2005	Concession
010350705	TK COL 7	1	10/11/2005	Concession
010350805	TK COL 8	1	10/11/2005	Concession
010350905	TK COL 9	4	10/11/2005	Concession
010351005	TK COL 10	1	10/11/2005	Concession
010351105	TK COL 11	2	10/11/2005	Concession
010351205	TK COL 12	21	10/11/2005	Concession
010351305	TK COL 13	1	10/11/2005	Concession
010351405	TK COL 14	3	10/11/2005	Concession
010351505	TK COL 15	24	10/11/2005	Concession
010351605	TK COL 16	36	10/11/2005	Concession
010351705	TK COL 17	24	10/11/2005	Concession
010351805	TK COL 18	6	10/11/2005	Concession

Code	Name	Area (ha)	Date Filed	Type
010351905	TK COL 19	7	10/11/2005	Concession
010352005	TK COL 20	13	10/11/2005	Concession
010352105	TK COL 21	3	10/11/2005	Concession
010352205	TK COL 22	4	10/11/2005	Concession
010352305	TK COL 23	40	10/11/2005	Concession
010352405	TK COL 24	12	10/11/2005	Concession
010352505	TK COL 25	1	10/11/2005	Concession
010352605	TK COL 26	1	10/11/2005	Concession
010352705	TK COL 27	1	10/11/2005	Concession
010352805	TK COL 28	1	10/11/2005	Concession
010061406	TK COL 29 A	548	3/1/2006	Concession
010353005	TK COL 30	12	10/11/2005	Concession
010353105	TK COL 31	399	10/11/2005	Concession
010353205	TK COL 32	62	10/11/2005	Concession
010353305	TK COL 33	6	10/11/2005	Concession
010353405	TK COL 34	12	10/11/2005	Concession
010469806	TK COL 35	400	2/11/2006	Concession
010469906	TK COL 36	800	2/11/2006	Concession
010470006	TK COL 37	771	2/11/2006	Concession
010470106	TK COL 38	447	2/11/2006	Concession
010470206	TK COL 39	617	2/11/2006	Concession
010470306	TK COL 40	670	2/11/2006	Concession
010329107	TK C.L 41	295	5/6/2007	Concession
010089608	TKCOL 42	100	1/2/2008	Concession
010260508	TK COL 43	992	29/4/2008	Concession
010260708	TK COL 44	1,000	29/4/2008	Concession
010260608	TK COL 45	1,000	29/4/2008	Concession
010260808	TK COL 46	800	29/4/2008	Concession
010260213	TK COL 47	400	16/7/2013	Concession
010255014	TK-COL-48	900	20/5/2014	Concession
010255114	TK-COL-49	600	20/5/2014	Concession
010184715	TK COL 50	100	18/3/2015	Claim
010200015	TK COL 51	300	23/4/2015	Concession
010254115	TK COL 52	200	1/6/2015	Concession
010354515	TK COL 53	1,000	11/11/2015	Concession
010354615	TK COL 54	1,000	11/11/2015	Concession
010237116	TK COL 57	600	15/8/2016	Claim
010149917	TK COL 58	1,000	05/1/2017	Concession
010149817	TK COL 59	400	05/1/2017	Claim
030042612	ZOE DANIELA I	13	7/6/2012	Concession
010276706	TINYA	1,000	19/6/2006	Concession
Total		**17,340**		

Notes: The areas reflect the areas officially granted. The official areas for concessions with titles pending may differ from the areas staked.
TK COL 50, 57 and 59 are Mining Claims.

Mineral concessions are granted in Peru following receipt of a paper application specifying the coordinates of the claim boundaries, based on UTM Zone 18S (datum WGS 1984) coordinates. All pre-2016 claims were staked using the PSAD 1956 datum and were subsequently converted to the new coordinate system. All new concessions must use the new grid and must be at least 100 ha in area. Where new claims overlap with older concessions converted to the new system, the older concession has precedence. Concession owners must pay US$3.00 per hectare to file each claim, plus an administrative fee. An annual hold fee of US$3.00 per hectare is required to maintain the claims, once granted, for the first six years, after which the owner is assessed at twice the annual rate, in addition to the annual holding fee, if the property has not been put into production.

Holding costs for the Ayawilca concession package for 2017, including penalties, total US$120,280.81.

Surface rights are not included in mineral rights, and permission must be obtained from owners and local leaders (when surface rights are owned by local communities) in writing, before commencing drilling activities. Companies must obtain a government permit prior to commencing any drilling or major earth moving programs, such as road and drill pad construction. Depending on the scale of work intended, exploration programs must be presented to the Ministry of Mines, which then will grant an approval to initiate activities as long as the paperwork is in order. All major ground disturbances must be remediated and re-contoured following completion of the work activities.

Tinka formed an exploration alliance with Sierra Peru Pty Ltd (Sierra) in 2004, whereby Sierra provided to Tinka first right of refusal to certain exploration targets for a two year period, including the Property claim area. Sierra received 250,000 fully paid shares of Tinka at the commencement of the alliance. Once a positive bankable feasibility study is completed, Tinka shall pay to Sierra a further 500,000 fully paid Tinka shares. Sierra will be entitled to a 1% net smelter return royalty (NSR) on any production. This NSR can be purchased by Tinka at any time for US$1 million.

RPA is not aware of any environmental liabilities on the Property. Tinka reports that it has all required permits to conduct the proposed work on the Property. RPA is not aware of any other significant factors and risks that may affect access, title, or the right or ability to perform the proposed work program on the Property.

Callao has the status of a Department.

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Source:
Map No. 3838 Rev.3., United Nations, 2004.

December 2017

Tinka Resources Limited

Ayawilca Property
Department of Pasco, Peru
Location Map

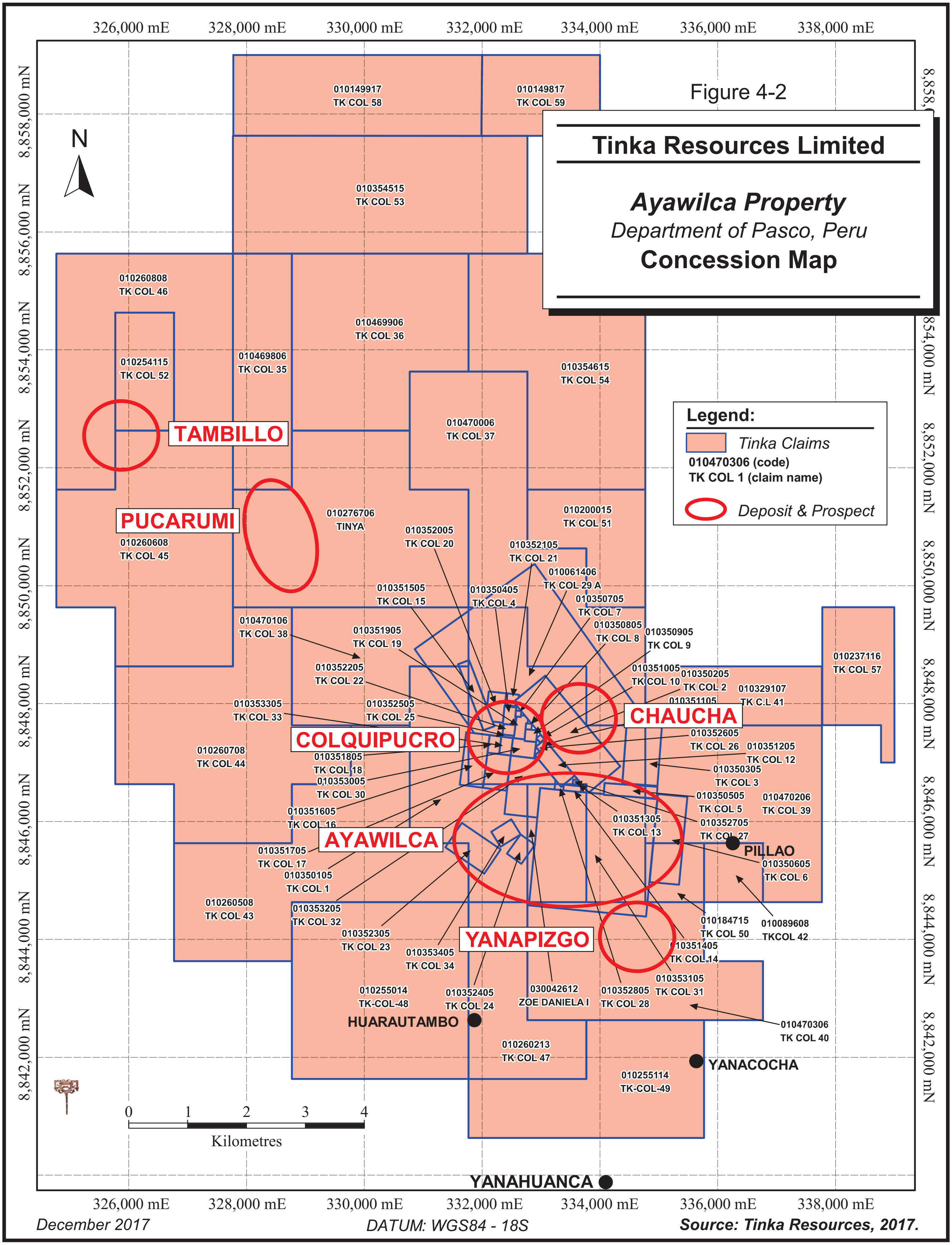


Figure 4-2
Tinka Resources Limited
Ayawilca Property
Department of Pasco, Peru
Concession Map
Legend:
Tinka Claims
010470306 (code)
TK COL 1 (claim name)
Deposit & Prospect
TAMBILLO
PUCARUMI
COLQUIPUCRO
CHAUCHA
AYAWILCA
YANAPIZGO
PILLAO
HUARAUTAMBO
YANACOCHA
YANAHUANCA
Kilometres
December 2017
DATUM: WGS84 - 18S
Source: Tinka Resources, 2017.

5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

ACCESSIBILITY

The Ayawilca Property is located near the town of Yanahuanca, in central Peru, which is the capital of the province Daniel Alcídes Carrión, in the Pasco region. It is accessible by road, travelling 300 km east of Lima by highway to Cerro de Pasco, then a further 64 km north-northwest by gravel road to Yanahuanca. The Property is accessed from Yanahuanca by gravel road, a further 25 km, through the small communities of Pillao and/or Yanacocha.

The nearest commercial airport is in Huánuco, the capital of the Huánuco Region and the Huánuco Province. Three daily flights from Lima fly into Huánuco and take approximately 45 minutes. Approximately 30 km south from Huánuco, at the town of Ambo, a junction connects to a gravel road that goes to Yanahuanca, 60 km further southwest. Travel by road from Huánuco to Yanahuanca takes approximately three hours.

CLIMATE

The mean annual temperature for the Property area during daytime is 15°C, however, temperatures vary significantly with altitude and season. There is a rainy season which generally lasts from October to March, and light snow sometimes falls in the higher elevations. Winter typically occurs from May to September and is generally dry, with clear daytime skies and cool nights.

Exploration can be performed year round.

LOCAL RESOURCES

Cerro de Pasco, approximately 40 km from the Property, is the regional capital and an important mining centre with approximately 50,000 inhabitants. The nearest town of Yanahuanca with a population of approximately 5,000, has supplies and infrastructure to support the surrounding population; the villages of Pillao and Yanacocha have a population each in the hundreds. Manual labour is available locally, while people with technical or mining experience would have to be accessed from Cerro de Pasco or Huánuco. The road to

Yanahuanca from Cerro de Pasco is paved, while the road from Ambo is a well-maintained all weather gravel road. Bus services to Yanahuanca are available from both towns.

INFRASTRUCTURE

The only permanent infrastructure on the Property is a well maintained regional unpaved road and a network of exploration drill roads used to access drill sites and a small exploration camp located at the Ayawilca deposit. The 220 kVA power line that supplies the Antamina Mine, located approximately 100 km northwest, bisects the Property. There is a steady source of water for exploration activities from streams, springs, and lakes. Small water courses dry up during the winter months.

PHYSIOGRAPHY

The Property is situated in the Andes Mountains of west-central Peru. Elevation on the Property ranges from 3,300 MASL up to 4,459 MASL at Cerro San Lorenzo, near the westernmost part of the Property.

Vegetation on the Property is sparse above 3,800 m elevation. Lower elevations are characterized by small or thorny shrubs and minor cacti. At higher elevations, there are grasses and various moss and lichens. Imported eucalyptus trees are farmed in the valley and lower slopes below 3,800 m elevation. Subsistence agriculture is spread throughout the countryside, and includes potato, corn, and various other ground crops, including alfalfa.

6 HISTORY

PRIOR OWNERSHIP, EXPLORATION AND DEVELOPMENT HISTORY

The following information is summarized from Nebocat (2014a) which references discussions with Robert Plenge, Tinka's General Manager in Peru until 2010.

The Colquipucro deposit was mined by the Spanish historically as evidenced by the numerous small adits, an old stone camp, and a stone chimney. Long horizontal cross-cuts, raises, and drifts, as well as a small retort used to dry silver ores, that are present on site are attributed to more modernized mining that took place from the 1920s to the 1950s.

Mining at Colquipucro from 1950 to 1954 was performed by Compania Minera Colquipucro SA, during which time tunnels were developed into the hill side to explore for silver. The site was optioned to Cerro de Pasco Corporation and to Cia Minera Buenaventura (Buenaventura) in 1954 and 1960, respectively, and both companies undertook intermittent exploration activities in the area. Between 1970 and 2005, sporadic exploration activities continued, including drilling (four holes), mapping, and trench work. In 2005, the claims lapsed and became available. Sierra recommended the area to Tinka, which placed new claims over the expired claims.

HISTORICAL RESOURCE ESTIMATES

No known Mineral Resource or Mineral Reserve estimates have been prepared historically by previous owners of the Property.

PAST PRODUCTION

Available records reviewed by Tinka list the production at Colquipucro to have been: 1,397 kg of silver in 1924, 10.7 kg of gold and 7,705 kg of silver in 1930, and 97 kg of silver in 1949.

7 GEOLOGICAL SETTING AND MINERALIZATION

REGIONAL GEOLOGY

The geology of Peru, from the Peru-Chile Trench in the Pacific to the Brazilian Shield, is defined as three major parallel regions, from west to east: the Andean Forearc, the High Andes, and the Andean Foreland. All three of these regions formed during Meso-Cenozoic evolution of the Central Andes. The Property lies within the High Andes region. A regional morphostructural map is shown in Figure 7-1 and regional geology map in Figure 7-2.

The High Andes can be divided into three sections, from west to east:

1. The Western Cordillera is made up of Mesozoic-Tertiary age rocks, dominated by the Coastal Batholith which consists of multiple intrusions with ages ranging from Lower Jurassic to Upper Eocene. The belt is up to 65 km across by 1,600 km long running sub-parallel to the Pacific coast, extending into Ecuador and Chile.

2. The Altiplano is a high internally drained plain situated at a mean elevation of almost 4,000 m, slightly below the average altitudes of the Western and Eastern Cordillera. It is 150 km wide and 1,500 km long, extending from northern Argentina to southern Peru.

3. The Eastern Cordillera forms a 4,000 m high and 150 km wide plateau. During the Cenozoic era, the arc has been uplifted forming the Eastern Cordillera.

Stratigraphically, the High Andes zone consists of, from west to east, an intra-arc trough, a deep basin, a continental shelf (within which the Property is located), and the Marañón metamorphic complex (the Marañón Complex). In general, the formations become progressively older from west to east, spanning from the mid-Tertiary to the Neoproterozoic-Paleozoic.

The Marañón Fold and Thrust Belt (MFTB) was formed during the Eocene in response to east-northeast directed tectonic accretion and subduction. Tight upright folds formed above a shallow detachment horizon towards the west, while more open folds formed above a deeper detachment horizon towards the east. The latter type folds are observed on the Property. Further east, the style of deformation is different with steeply dipping reverse faults and open folds affecting the Neoproterozoic crystalline basement of the Eastern Cordillera (Pfiffner, 2013). The MFTB has been mapped within the northern half of Peru over a distance of at least 600 km northwest-southeast by at least 200 km northeast-southwest.

The mineral deposits of central Peru consist of a variety of base metal deposits in host rocks ranging in age from Permian (285 Ma) to Miocene (6 Ma), however, the age of most mineral deposits broadly related to intrusions is Miocene (7 Ma to 15 Ma). Deposit types include: polymetallic carbonate replacement deposits (CRD), polymetallic vein, zinc-copper skarn, copper-zinc skarn, and porphyry deposits. All of the large zinc deposits are hosted by Mesozoic carbonate rocks.

The most famous zinc-dominant deposit in the region is Cerro de Pasco. The deposit has been in operation for more than 100 years and is located 40 km southeast of the Property. Silver oxides were originally mined by the Spanish. Cerro de Pasco is a CRD with historic production between 1906 and 1976 of 38.3 Mt grading 2.5% Cu, and between 1955 and 1976 of 27.6 Mt grading 9.2% Zn, 3.6% Pb, and 2.7 oz/t Ag (Einaudi, 1977). Production from 2009 to 2013 has been 12.5 Mt grading 3.7% Zn, 1.3% Pb, and 3.7 oz/t Ag. Open pit production has been halted since 2014 with current Proven and Probable Mineral Reserves of 27.4 Mt grading 2.03% Zn and 0.79% Pb and additional Measured and Indicated Mineral Resources of 111.3 Mt grading 2.29% Zn and 0.90% Pb (Minera Volcan website).

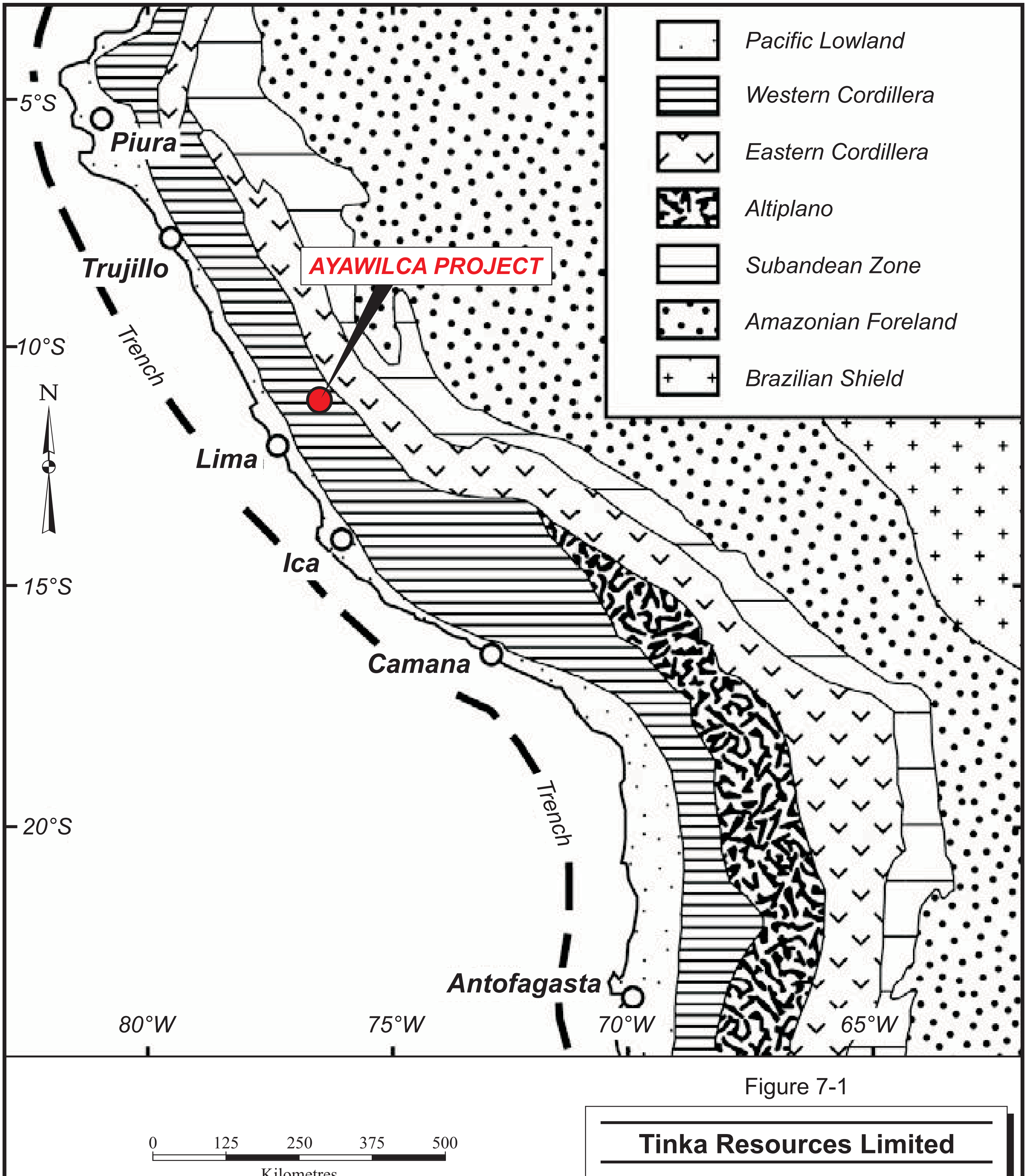
The Colquijirca and San Gregorio zinc deposits, located approximately 10 km south of Cerro de Pasco, are also large zinc and copper rich CRD-type deposits. Colquijirca had at December 31, 2015 open pit zinc Proven and Probable Mineral Reserves of 45.7 Mt grading 2.7% Zn, 1.0% Pb and 1.1 oz/t Ag plus additional Measured and Indicated Mineral Resources of 56.8 Mt grading 2.6% Zn, 0.9% Pb, and 1.0 oz/t Ag (Mineral El Brocal Annual Report, 2015). The Marcapunta Norte copper deposit, which lies between Colquijirca and San Gregorio, had at December 31, 2015 Proven and Probable Mineral Reserves of 21.7 Mt grading 2.25% Cu, 0.4 g/t Au, 0.6 oz/t Ag and 0.65% As plus additional Measured and Indicated resources of 21.7 Mt grading 2.25% Cu, 0.4 g/t Au, 0.6 oz/t Ag and 0.65% As (Minera El Brocal Annual Report, 2015). The San Gregorio zinc deposit had a 2012 Mineral Resource of 79.9 Mt grading 5.2% Zn, 1.5% Pb, and 0.3 oz/t Ag (Mineral El Brocal Annual Report, 2015).

The Antamina zinc-copper skarn deposit is located 100 km northwest of the Property, and is currently Peru's largest copper and zinc producer. Mineral Reserves at year-end 2016 were 305 Mt grading 1.0% Cu and 8 g/t Ag (sulphide copper), and 247 Mt grading 0.9% Cu and 2.0% Zn, and 14 g/t Ag (sulphide copper-zinc) (Teck Resources Reserves and Resources statement as at December 31, 2016).

The Uchucchacua mine, approximately 25 km to the southwest of Ayawilca, is a vein-replacement and skarn style deposit with production in 2016 of 16.2 million ounces of silver in concentrate. Uchucchacua Mineral Reserves at year-end 2016 were 4.65 Mt grading 14.22 oz/t Ag, 1.42% Pb, and 1.87% Zn (Buenaventura Annual Report, 2016).

The Santander Mine, approximately 80 km south of Ayawilca, is a CRD style deposit hosted by Cretaceous limestones (Trevali website, 2017). The three Magistral deposits (North, Central, and South) form the basis of the current Proven and Probable Reserve estimate of 2.5 Mt grading 4.5% Zn, 0.7% Pb and 1.1 oz/t Ag. Measured and Indicated Mineral Resources are estimated at 3.8 Mt grading 4.9% Zn, 0.8% Pb and 1.2 oz/t Ag with an additional Inferred Mineral Resource estimate of 12.0 Mt grading 4.2% Zn, 0.2% Pb, and 0.6 oz/t Ag (Trevali Mining corporate presentation, 2017).

The locations of many of the deposits mentioned above are shown in Figure 7-3. RPA has not independently verified this information and this information is not necessarily indicative of the mineralization at the Property.



Source: After Jaillard et al., 2000 and Sebrier et al., 1988.
In Wipf, 2006. PGS Pacific Geological Services

December 2017

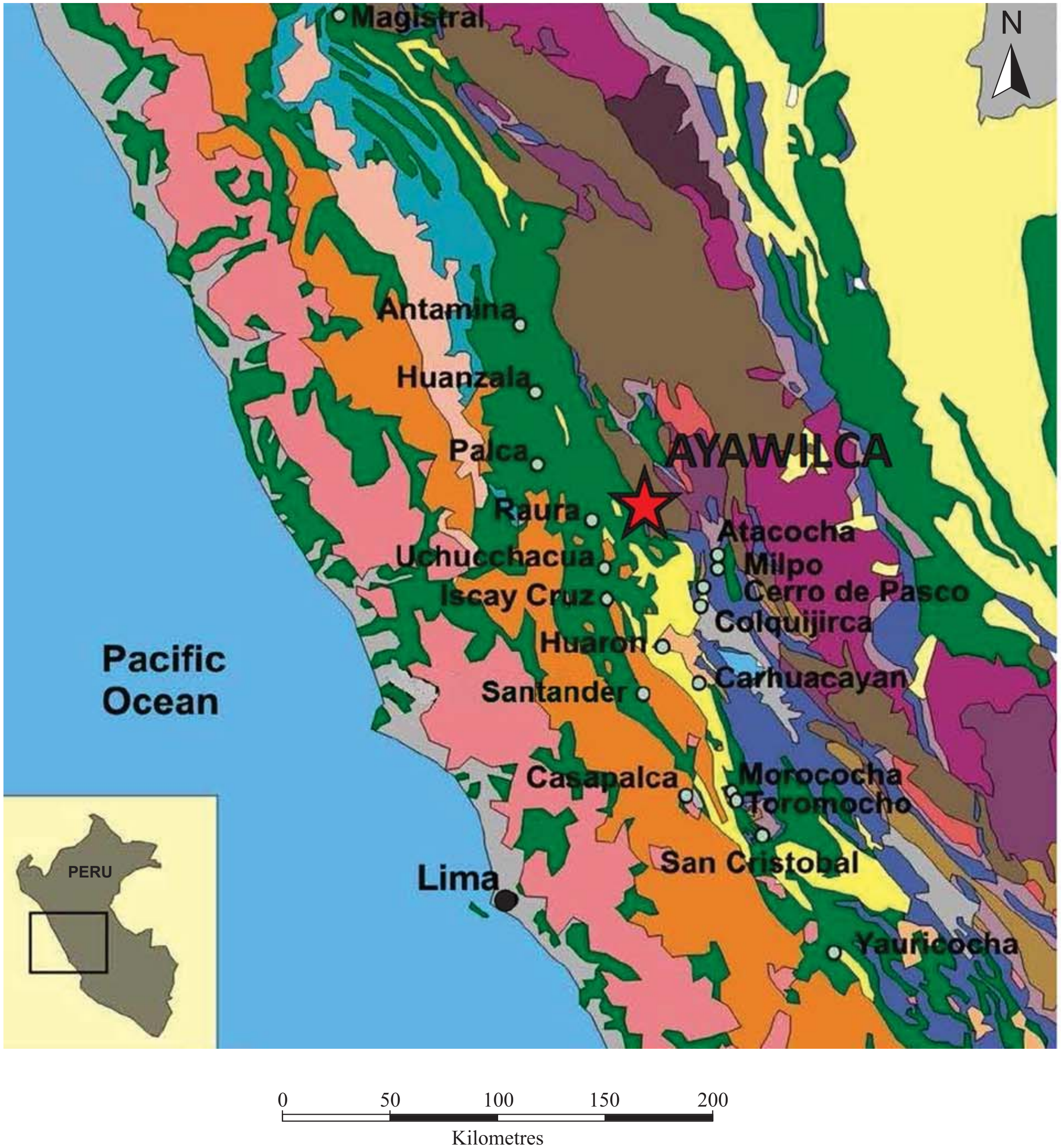
Figure 7-1

Tinka Resources Limited

Ayawilca Property

Department of Pasco, Peru

Morphostructural Map



Sedimentary - Volcanic Units

- *Quaternary*
- *Tertiary Sediments*
- *Upper Tertiary Volcanics*
- *Miocene Volcanics*
- *Upper Cretaceous - Lower Tertiary*
- *Cretaceous*
- *Upper Jurassic*
- *Triassic - Jurassic*
- *Permian*
- *Permo - Carboniferous*
- *Siluro - Devonian*
- *Pre-Cambrian*

Igneous Intrusive Units

- *Cordillera Blanca Batholith*
- *Peruvian Coastal Batholith*
- *Cretaceous Intrusives*
- *Permo - Triassic Intrusives*
- *Permo - Carboniferous Subvolcanics*

Figure 7-2

Tinka Resources Limited

Ayawilca Property

Department of Pasco, Peru

Regional Geology

December 2017

Source: Tinka Resources, 2016.

RPA

www.rpacan.com

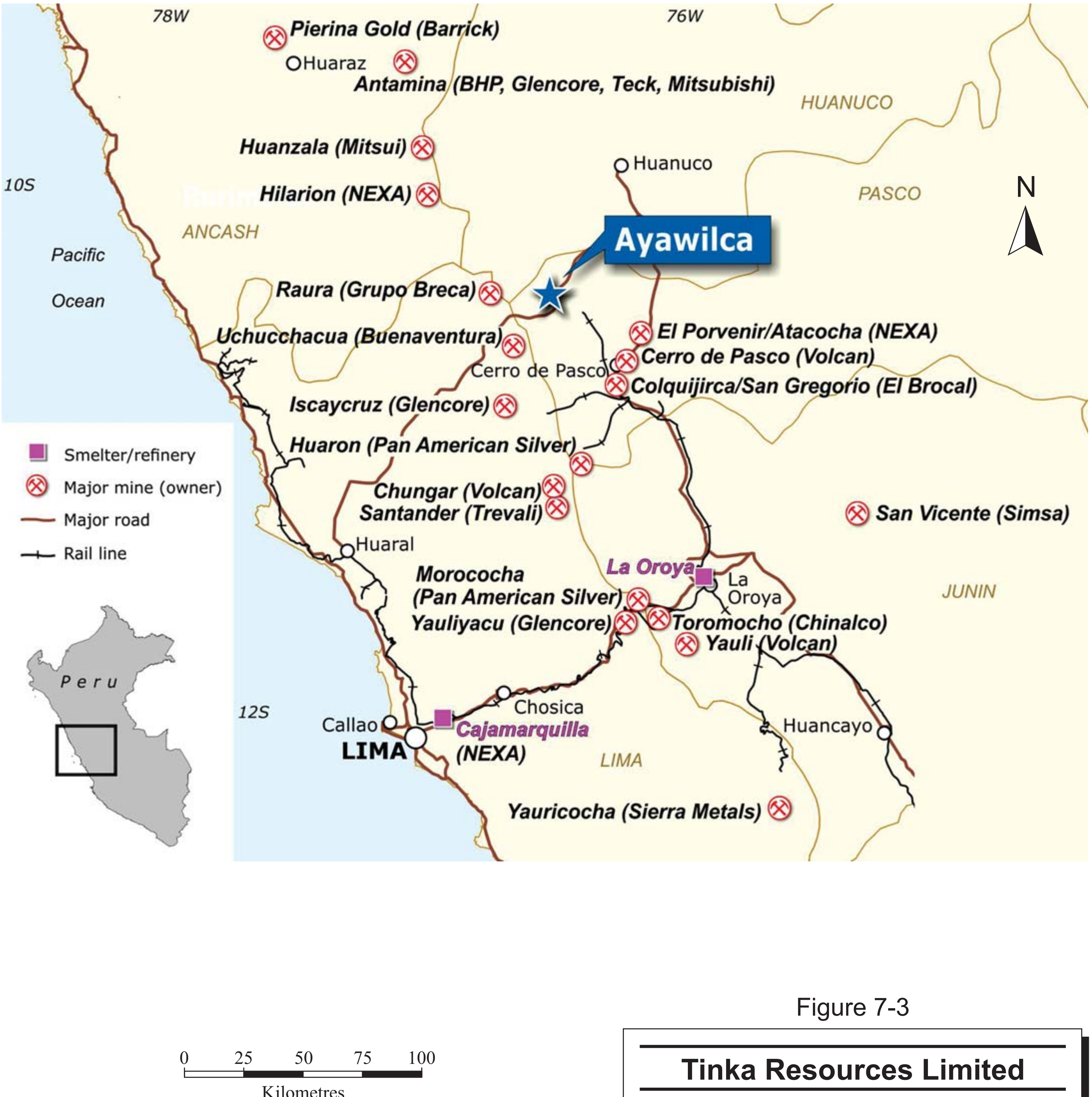


Figure 7-3

Tinka Resources Limited

Ayawilca Property

Department of Pasco, Peru

Regional Deposits

December 2017 **Source: Tinka Resources, 2017.**

LOCAL GEOLOGY

The local geology map shows the Property to be underlain by sedimentary and volcanic stratigraphy ranging from late Proterozoic to Tertiary age (Figure 7-4). The entire sequence has been folded and thrusted along north to north-northwest trending Andean faults, with subsequent trans-tensional faults orientated northeast or east-west.

The oldest documented rocks in the area belong to the Marañón Complex and consist of schist, gneiss, and meta-intrusive rocks, of Devonian age. Phyllite outcrops on the Property form part of the Excelsior Group, a component of the Marañón Complex

Permian to lower Triassic Mitu Group is comprised of red bed terrestrial sediments including sandstone, conglomerate, and intercalated mudstone. Some occurrences of volcanic rocks are found in the upper parts of the Mitu Group. The Mitu Group may be over 100 m thick in places, however, thicknesses vary, and it is observed as a thin (typically less than five metres) layer of conglomerate over the southern part of the Property.

Upper Triassic to lower Jurassic Pucará Group limestone is the predominant host for both zinc and tin mineralization at the Property, and is an important host of zinc elsewhere in the regional belt. The Pucará Group limestone is divided regionally into three main units: the Chambará Formation consisting of dolostone and subordinate limestone; the Aramachay Formation of bituminous shale; and the Condorsinga Formation, again, dominated by shallow-water limestone. The Chambará Formation may be the dominant host rock at the Ayawilca deposit. Studies suggest that the Pucará was formed within a north-northwest trending, elongated post-rift basin complex (Rosas et al., 2007).

Lower Cretaceous Goyllarisquizga Group (commonly abbreviated to Goyllar sandstone or Goyllar Group) lies disconformably above Pucará Group rocks. The Goyllar Group consists of thick deltaic quartzose sandstones with minor shale, coal, and limestone (Redwood, 2004). The Goyllar Group consists regionally of four formations, from bottom to top: Chimu, Santa, Carhuaz, and Farrat. INGEMMET has classified these rocks as "undifferentiated" in this area, however, the description of the Chimu Formation (white quartz sandstone; dark shale and minor coal beds) best fits the lithologies found on the Property. In general, the Goyllar Group sandstones are gently dipping to the southeast at less than 10°. Close to the northwest trending regional faults, the dips of the sandstones typically increase and can reach sub-vertical.

Regional mapping emphasizes "fold-and-thrust belt" systems as the prominent structural feature in the region (Cobbing and Sanchez, 1996). The area west of the Property consists of complexly folded and thrust-faulted Cretaceous sedimentary rocks and less deformed early to middle Tertiary andesitic volcanic rocks (Coney, 1971).

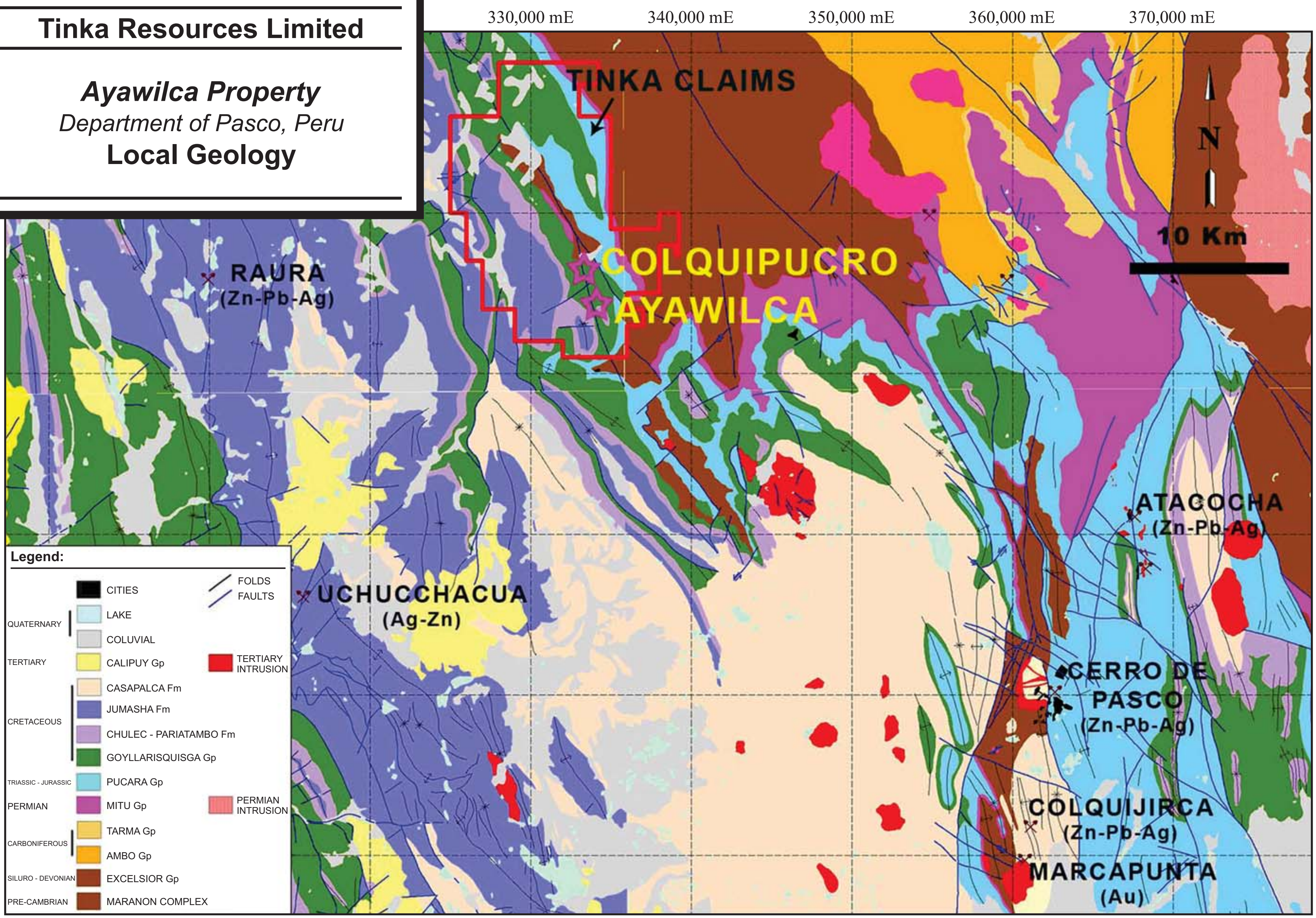
Figure 7-4

Tinka Resources Limited

Ayawilca Property

Department of Pasco, Peru

Local Geology



December 2017

Source: Tinka Resources, 2017.

RPA

www.rpacan.com

PROPERTY GEOLOGY

The Property geology as mapped and interpreted by Tinka is shown in Figures 7-5 and 7-6. During 2017, Tinka generated a new geological interpretation based on the information from drilling from South Ayawilca.

The oldest rocks mapped on the Property are phyllite metamorphic rocks which belong to the Devonian Excelsior Group. They outcrop in the north-central and eastern portions of the Property and consist of light coloured quartz-sericitic-chlorite phyllite and minor graphitic schist. Foliations strike generally northwest-southeast with gentle to moderate dips to the southwest and northeast. The large phyllite outcrop is interpreted to be the core of an anticline ("basement high") bounded by two sub-parallel northwest Andean faults approximately two kilometres apart, and cross-cut by a number of northeast-trending trans-tensional faults. The anticline plunges gently to the south, so that the phyllite is observed near the base of drill holes 350 m to 500 m below surface approximately two kilometres south of the outcropping areas at the Zinc Zone resource area.

In drill holes at Ayawilca, the Mitu Formation occurs as a thin conglomerate bed with sub-angular to sub-rounded clasts of quartz and phyllite derived from underlying Excelsior Group rocks. The conglomerate observed in drill cores may represent the base of the Pucará along an erosional surface rather than older Mitu Formation rocks.

Triassic-Jurassic age Pucará Group carbonate rocks overlie the Mitu Formation. The carbonate rocks are often brecciated, with evidence of karstification and dissolution. The carbonate sequence in drill holes is 200 m to 250 m thick, with a tendency to thicken to the east. The younger limestone beds contain fossil debris (bivalves and crinoids are the most common classes), becoming more massive and less brecciated towards the base. Thin shale horizons and calcareous sandstone also occur near the base. Greywacke towards the top coincides with a general thickening of the carbonate sequence to the east. White quartz arenite beds are found locally within this carbonate sequence. Pucará Group carbonate rocks are exposed in deeply incised valleys, and on uplifted and folded blocks, especially those occurring close to major regional faults.

Cretaceous age Goyllar Group rocks are well bedded sandstone units which overly the carbonate rocks of the Pucará Group. Goyllar sandstone occurs as a "cap" above the Zinc and Tin Zones, with an average thickness of 150 m to 200 m. Goyllar Group is subdivided by Tinka geologists into three distinctive units based on facies types as follows: Upper Goyllar, Middle Goyllar, and Lower Goyllar. Lower Goyllar is dominated by interbedded sedimentary breccia, pebble conglomerate, carbonaceous shale and local thin coal seams, grit and medium grained sandstone. On the eastern side of Colquipucro, the Lower Goyllar is made up almost exclusively of quartz pebble conglomerate, while on the western side, coal beds and red shale occurring with the conglomerate suggest facies changes during deposition. The Lower Goyllar member is between 10 m and 80 m thick, with significant local variations.

Middle Goyllar is a sequence of cross-bedded quartz arenite. These beds are typically massive and host the main silver mineralization at Colquipucro. The arenite is well sorted with rounded and interlocking grains suggesting a typical deltaic environment. Minor amounts of clay are observed locally. This member is similar to the Chimú Formation mapped elsewhere in central Peru and is typically between 50 m and 100 m thick at the Property. Quartz arenite and sedimentary breccia similar to those found in the Lower and Middle Goyllar sequences are found underlying the Pucará limestone in a small area in the South Ayawilca zone. Tinka geologists interpret this occurrence as a repetition of part of the Goyllar sandstones caused by a series of low angle thrusts near the base of the Pucará, which also cause the Mitu conglomerates to be sliced out.

Upper Goyllar Group is dominated by impure sandstone, siltstone, and mudstone. These rocks are undeformed and unaltered covering much of the Ayawilca deposit area. Mapping indicates that the Upper Goyllar can be up to 250 m thick.

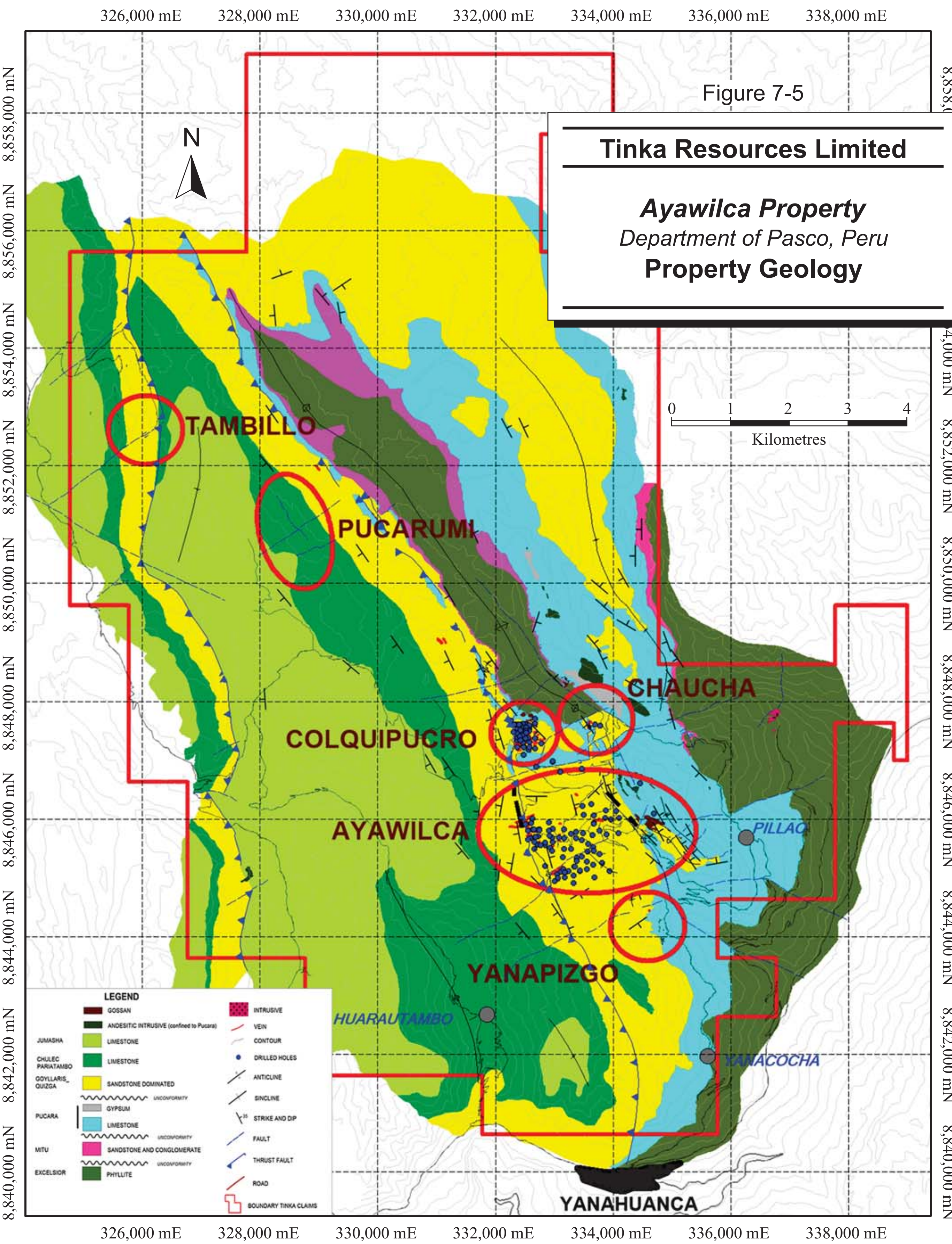
Lying conformably above the Goyllar Group is a series of carbonate-rich formations of Middle to Upper Cretaceous age. The lowermost of these units is the Chúlec-Pariatambo Formation. It is 100 m to 200 m in thickness, and consists of thinly bedded fossiliferous limestone with abundant reef fauna. The Jumasha Formation is a thickly bedded micritic limestone and can be hundreds of metres in thickness. These rocks have been folded and thrusted along a series of west-verging reverse faults caused by early Tertiary deformation events linked to the Andean orogeny.

Igneous rocks found within the Property include andesitic dykes and sills that have intruded into the Pucará carbonate sequence. Although these subvolcanic rocks have not been dated, similar types of dykes and sills are found elsewhere in the region and are believed to be of

Jurassic age (i.e., pre-Goyllar Group). An intrusive porphyry has been mapped at an area known as "Los Pinos", approximately three kilometres northeast of the East Ayawilca Zinc Zone at an elevation of approximately 3,300 m. The Los Pinos porphyry has a granodiorite composition, and in outcrop covers an area of 300 m by 200 m. The porphyry exhibits argillic alteration with pyrite–molybdenite veinlets.

Two parallel northwest trending faults cut the Property. The westernmost of these is the Colquipucro Fault, which has ramped Cretaceous rocks on top of the basement high defined by the outcropping phyllite of the Excelsior Formation. A sub-parallel fault approximately two kilometres to the east is the Chaucha Fault, which defines the eastern limit of the basement high. Important northeast trending faults cross-cut the northwest fault systems. Low angle thrusts appear to repeat and slice the lower portion of the Pucará Group, especially at South Ayawilca. The sedimentary sequence is folded on an asymmetrical anticline near the westernmost limit of the basement high block. The axis of this fold is approximately parallel to the trace of the Colquipucro fault, with the western limb displaying steep dips to the west while the eastern limb has shallow dips to the southeast (5° to 7°).

Oxidation by acid waters generated from the breakdown of sulphides has caused deep weathering at Colquipucro to approximately 150 m depth. Immediately north of Colquipucro, for example, are outcrops of the Clinker zone, which is a brown-black ferruginous and manganiferous gossan beneath the sandstone that would have originally been sulphide in the limestone.



December 2017

Source: Tinka Resources, 2017.

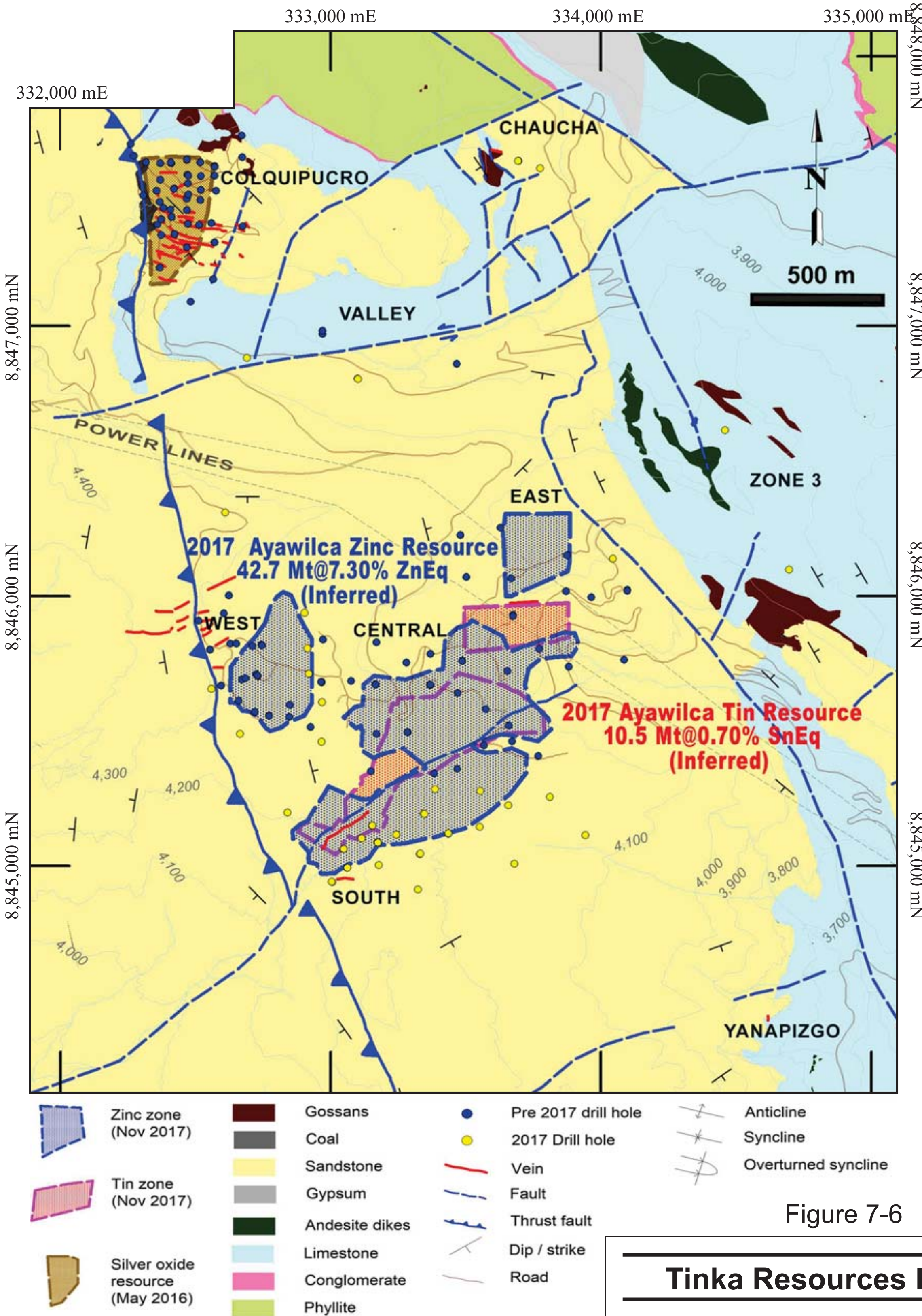


Figure 7-6

Tinka Resources Limited

Ayawilca Property

Department of Pasco, Peru

Detailed Property Geology with New Zinc & Tin Resource

December 2017

Source: Tinka Resources, 2017.

MINERALIZATION

The Ayawilca Property hosts several styles of mineralization within numerous deposits, zones, and target areas. Mineral Resources have been estimated at the Ayawilca Zinc and Tin Zones, and the Colquipucro Silver Zone and are discussed in detail in Section 14, Mineral Resources, of this report. Other target areas on the Property that warrant additional exploration work, including drilling, are also described below and include Chaucha, Valley, Yanapizgo, Pucarumi, and Tambillo.

AYAWILCA ZINC MINERALIZATION

The Ayawilca Zinc and Tin Zones are hosted mostly within a sequence of limestone breccia, limestone, dolomite, calcareous siltstone, arenite and greywacke, of the Pucará Group (Figure 7-7). The Ayawilca deposit is made up of multiple, gently dipping sulphide lenses, or “mantos”, generally with vertical thicknesses of between 10 m and 30 m (locally thicker) within four areas (West, South, Central, and East). West and South Ayawilca areas are believed to have the form of “chimneys” up to 200 m thick, comprised of several flat-dipping mantos each up to 70 m thick. A detailed description of the dimensions of the mantos as modelled is provided in Section 14, Mineral Resource Estimate, of this report.

The four structural zones span 1.5 km in the east-west direction and 1.3 km in the north-south direction. Each zone has been modelled separately. The West Ayawilca Zinc Zone measures approximately 510 m long in the north-south direction and 200 m to 350 m in the east-west direction, while South Ayawilca measures approximately 550 m long in the northeast-southwest direction and 250 m in the northwest-southeast direction. Multiple mantos were intersected at Central and East Ayawilca, but only those showing sufficient continuity between drill sections have been modelled as part of the Mineral Resource.

Zinc mineralization occurs as massive to semi-massive sulphide replacements of the carbonate rocks and is thought to be controlled by multiple, sub-parallel, east-west, and northeast-southwest trending structures, as well as low angle thrust faults. The mineralized zones are interpreted to be generally gently dipping, replacing favourable sedimentary units. The zinc occurs as various generations of sulphide impregnations (mostly marmatite, a high-iron variety of sphalerite also known as “black jack”) accompanied by abundant pyrite, pyrrhotite, chlorite, iron carbonate (siderite), and magnetite. Minor sulphides include low-iron sphalerite, galena, chalcopyrite, and arsenopyrite. Multi-element geochemistry indicates that indium is correlated with the zinc mineralization.

Narrow, high-grade marmatite-sphalerite veins and mantos cut through the Goyllar sandstone, and occasionally have broken through to the surface (e.g., at West and South Ayawilca). Veins are typically 0.2 m to 1.0 m in width.

Late carbonate-sphalerite-galena-proustite veins at South and West Ayawilca, interpreted to be steeply dipping, show epithermal textures, and are interpreted to be the last mineralization event. This style of vein mineralization is not volumetrically significant and has not been modelled as part of the Mineral Resource, however, these veins can have very high silver grades and offer further potential for later exploration.

Zinc mineralization is generally associated with argillic alteration within the carbonate host rocks. Disseminated clots of white clays (dickite) are common within and near the mineralization, and late-stage coliform siderite veinlets are often seen cutting the sulphides. Dickite, illite, and pyrophyllite are widespread and were identified using short-wave infra-red spectrometry. Higher temperature clays, such as pyrophyllite, were most common in the Central Ayawilca area, suggesting a possible thermal aureole centred on this zone.

Strong, pervasive chlorite alteration typically occurs immediately peripheral to the zinc mineralization areas, surrounding the argillic alteration. Massive pyrite is also believed to form as a halo to the zinc mineralization, and is intersected in holes around the fringes of West and South Ayawilca with minimal associated zinc mineralization. Further outward and upward, manganese oxide is common, and believed to form a wider alteration halo.

There is a strong correlation between known zinc mineralization and a significant underlying magnetic anomaly (consisting of several anomalies) which has approximate dimensions of 3.0 km by 0.8 km orientated northeast-southwest (Figure 9-1). The source of the magnetic anomalies is believed to be either magnetite (which pre-dates sulphide mineralization and forms a halo to the sulphides) or pyrrhotite (which is generally associated with the tin-copper mineralization). The magnetic anomaly remains untested into the Zone 3 area, which is considered a high priority exploration target.

AYAWILCA TIN-COPPER MINERALIZATION

Tin mineralization was discovered at Ayawilca in 2014, when a review of the multi-element data from the deposit discovered anomalously high tin values and the subsequent re-assay of pulps for high tin values. The tin mineralization pre-dates and is cross-cut by the zinc mineralization described above. The tin mineralization, which occurs with minor copper as chalcopyrite, is hosted in massive to semi-massive pyrrhotite mantos typically 10 m to 20 m in vertical thickness (up to 50 m) at or near the contact of the Pucará Group carbonate rocks and the Excelsior Formation phyllite. The pyrrhotite is strongly magnetic, and is believed to be the main source of the large magnetic anomaly (3.0 km by 0.8 km) at Ayawilca (Figure 9-1), and possibly much of the gravity anomaly (Figure 9-2). As discussed above, the underlying magnetic anomaly also continues to the northeast of the known mineralization into the area called Zone 3.

Mineral Liberation Analysis (MLA) and QEMSCAN mineralogical studies of eleven drill core samples show that tin occurs predominantly as cassiterite, with very minor stannite. Almost half of the cassiterite in these samples is coarse grained (less than 0.3 mm). Common sulphides occurring with tin are pyrrhotite with lesser chalcopyrite, pyrite, arsenopyrite, and galena. Cassiterite veins are locally observed to cut the massive pyrrhotite lenses.

Massive pyrrhotite hosts most of the tin (-copper) mineralization following replacement of limestone beds, however, pyrrhotite veins also cut the underlying phyllite near the contact with the limestone. Drill hole A15-039 cuts a network of tin-copper bearing millimetre to centimetre scale veinlets over a vertical thickness of approximately 40 m that may represent part of a feeder system to the pyrrhotite lenses. The thickest vein measures 10 cm and contains chalcopyrite and arsenopyrite. No conclusive deep-seated feeder fault system for the tin mineralization has been found to date.

COLQUIPUCRO SILVER MINERALIZATION

The Colquipucro silver deposit is hosted primarily within oxidized Goyllar sandstone with mineralization at or close to the surface (Figure 7-7). Colquipucro is an unusual deposit, being the only documented sandstone-hosted disseminated silver deposit in Peru. Historical mining for lead and silver focused on a series of en-echelon east-west trending, steeply north dipping faults and veins which hosted high silver grades. The mined structures ranged from one metre to three metres thick. In 2006, mapping and sampling by Tinka of an old exploration adit that cuts across several of the mineralized structures that remain open showed that there was lower grade silver mineralization between the veins.

The deposit has been modelled to include ten north dipping high grade zones, a gently dipping basal zone, and a low grade halo that encompasses all high grade zones. Overall, the deposit measures 550 m in the north-south direction by 380 m in the east-west direction by 75 m thick.

The silver mineralization is hosted in quartz sandstones and occurs with abundant iron oxides (goethite, jarosite) and manganese oxides in fractures and disseminations within the pore spaces of the sandstones. Sulphide minerals are rare, though galena is observed occasionally. The fracture controlled mineralization is epigenetic and cross-cuts the primary bedding. Mineralized fractures are highly limonitic, locally manganiferous, and can also contain friable gouge and sand. Fracture spacing ranges from a few to many tens of centimetres apart.

CHAUCHA

The Chaucha area is located one kilometre east of Colquipucro and 500 m south of the Chaucha geophysical target, above the village of Huahuacocha. Two drill holes were completed during 2017, targeting a discrete magnetic anomaly approximately 200 m in diameter beneath an outcrop of brecciated, manganese-altered Goyllar sandstone. Drill hole A17-086 intersected 92 m of massive hematite ± magnetite ± pyrite, hosted in brecciated limestone. Hematite is early, and is replaced by magnetite. These iron oxides are later cut by massive pyrite, with no other significant sulphides present. The zone is interpreted to be shaped as a near vertical breccia pipe of unknown dimensions. No significant zinc mineralization was encountered in this zone, however, the presence of significant massive iron oxides (hematite with magnetite) is intriguing, and is a new style of mineralization at the Property.

Large outcrops of gypsum are located east of the Chaucha River. These outcrops occur over approximately one kilometre of strike, and are up to 100 m in thickness. The gypsum is interpreted to be part of an evaporate sequence within the Pucará Group which has been remobilized along the Chaucha Fault.

VALLEY

The Valley area is located between the Ayawilca Zinc Zone and the Colquipucro silver deposit, approximately 700 m north of the West Ayawilca resource boundary. The Valley target is defined by a broad magnetic anomaly approximately 800 m by 150 m orientated northeast-southwest. Three holes have been drilled by Tinka, with the most significant results coming from hole A17-092 which intersected 11.7 m grading 3.2% Zn from 241.8 m depth. Mineralization occurs with semi-massive sulphides consisting of sphalerite and pyrite, with minor galena and magnetite. Further drill testing is recommended.

YANAPIZGO

The Yanapizgo area is located two kilometres south of the Ayawilca Zinc Zone, where Pucará limestone is exposed at the base of a 300 m cliff. A series of millimetre-scale sphalerite-galena vertical veinlets are Pucará limestone near the contact with Goyllar sandstone. At the contact, the veinlets are sub-horizontal, parallel to stratigraphy, while a smaller number of veinlets cut through the sandstone. Several very small adits of unknown age have worked the zinc-lead-silver veinlets. Preliminary surface mapping has discovered sulphide mineralization over a north-south strike length of approximately 500 m. Highlights of selective rock chip samples at Yanapizgo include 8.8% Zn, 19.0% Pb, and 511 g/t Ag each over 0.8 m; 8.0% Zn, 3.8% Pb, and 130 g/t Ag over 0.8 m, and 7.9% Zn, 3.5% Pb, and 81 g/t Ag over 0.8 m.

A magnetic anomaly with approximate dimensions of 400 m by 150 m elongated east-west, is located approximately 300 m north of the mineralized outcrops at Yanapizgo. The source of the anomaly is unknown, however, the magnetic anomaly is an obvious drill target given the association between magnetics and zinc mineralization at Ayawilca.

PUCARUMI

The Pucarumi zone, located eight kilometres northwest of the Ayawilca Zinc Zone resource, was identified in late 2016 by regional prospecting and follow-up of magnetic anomalies identified in an airborne survey carried out in 2016. Goyllar sandstone, Cretaceous age Chúlec-Pariatambo, and Jumasha Formation limestone outcrop in this area. Mineralization occurs as zinc oxides in both manganese and iron gossan bodies along northeast-southwest structures and as disseminated zinc oxide hosted in the matrix of a chert-rich intraformational limestone breccia hosted by Chúlec-Pariatambo limestone. Two mineralized host breccias have been identified to date, each measuring approximately two metres in thickness and traceable over a strike length of up to one kilometre. Grades in these mineralized zones are up to 15% Zn, all of which occurs as oxide. The source of the magnetic anomaly, which occurs approximately 700 m to the northeast of the mineralized outcrops, remains unexplained.

TAMBILLO

The Tambillo zone, located 10 km northwest of the Ayawilca Zinc Zone, was identified by regional prospecting and was mapped in detail in 2016. It is located near the northwestern corner of the Property, in an area covered with Goyllar sandstone and Chúlec-Pariatambo limestone. Mineralization is dominated by massive pyrite flooding of a medium-grained quartz arenite of the Goyllar Group. The pyrite was mined in the past 20 years, leaving an old pit and the foundations of an abandoned camp. Soil sampling and a ground magnetic survey were carried out over the area in 2016, with no significant anomalies detected.

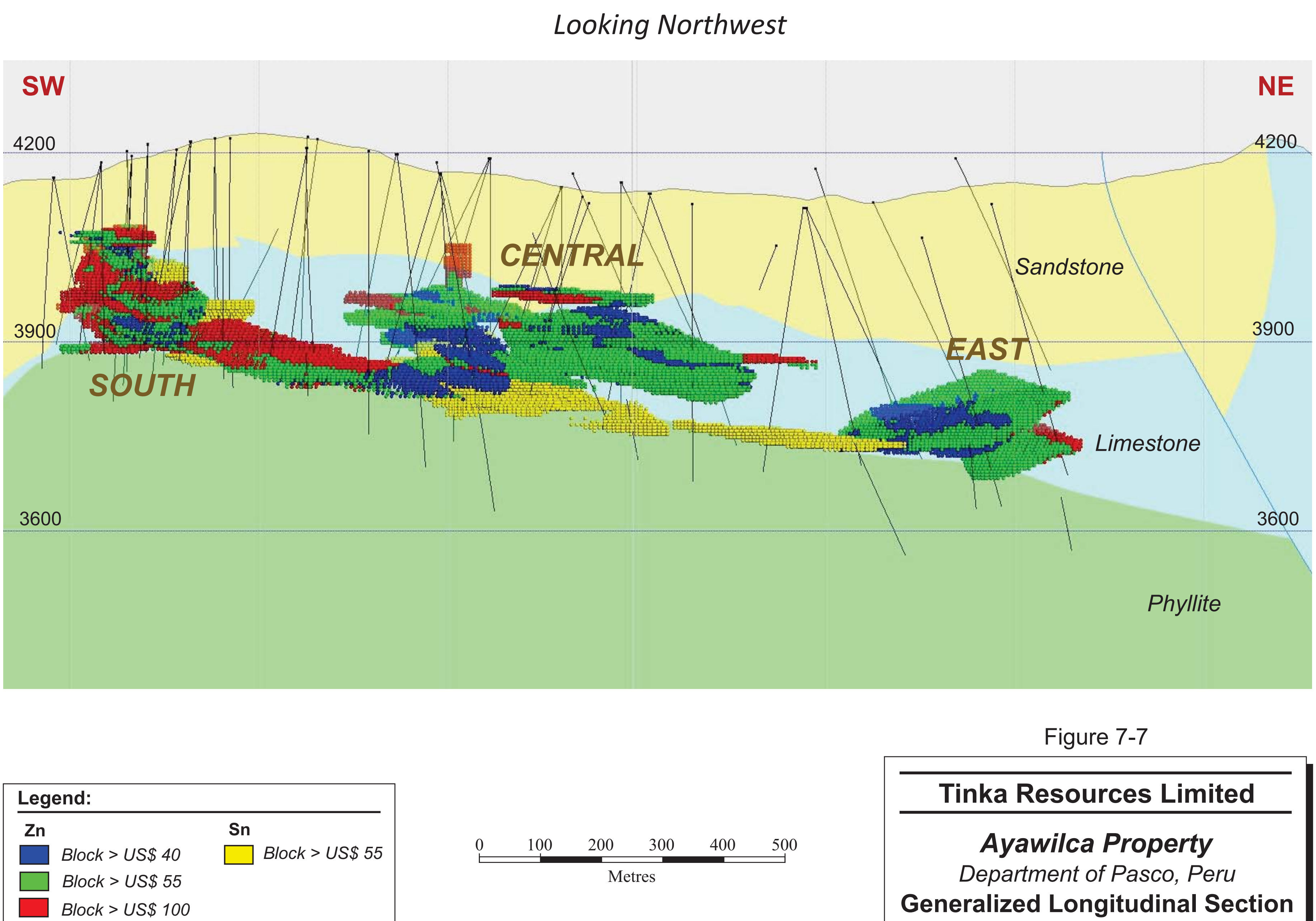


Figure 7-7

Tinka Resources Limited

Ayawilca Property

Department of Pasco, Peru

Generalized Longitudinal Section of Mineralized Zones

December 2017

Source: Tinka Resources, 2017.

8 DEPOSIT TYPES

AYAWILCA ZINC AND TIN DEPOSITS

The regional setting, geometry, and zinc mineralogy indicates that Ayawilca is a carbonate replacement deposit (CRD), of which there are several other type examples in central Peru (e.g., Cerro de Pasco, Morococha, Colquijirca, and San Gregorio). These deposits typically develop when hydrothermal fluids replace carbonate rocks proximal to an intrusive body, although in some cases the causative intrusive body may not be observed or identified conclusively. CRDs are considered more distal from the source than porphyry and skarn deposits, but closer to the source than intermediate (or low) sulphidation epithermal precious metals deposits (Figure 8-1).

Ayawilca differs from most other CRDs in central Peru in that it has early tin-copper mineralization associated with pyrrhotite. Early pyrrhotite tin-copper mineralization is reported to exist in the Cerro de Pasco deposit although apparently not so well developed.

COLQUIPUCRO DEPOSIT

Colquipucro is the only known and documented sandstone-hosted oxide silver deposit in Peru. Silver is hosted in fractures, faults, and veins with abundant iron oxides (goethite, jarosite) in fractures and disseminations within the pore spaces of the sandstones. Colquipucro is tentatively classified as a disseminated, intermediate sulphidation epithermal deposit (now oxidized) (Figure 8-1). Limited work has been done on the alteration styles of the mineralized rocks at Colquipucro, so the genetic mineralization model remains as a working hypothesis.

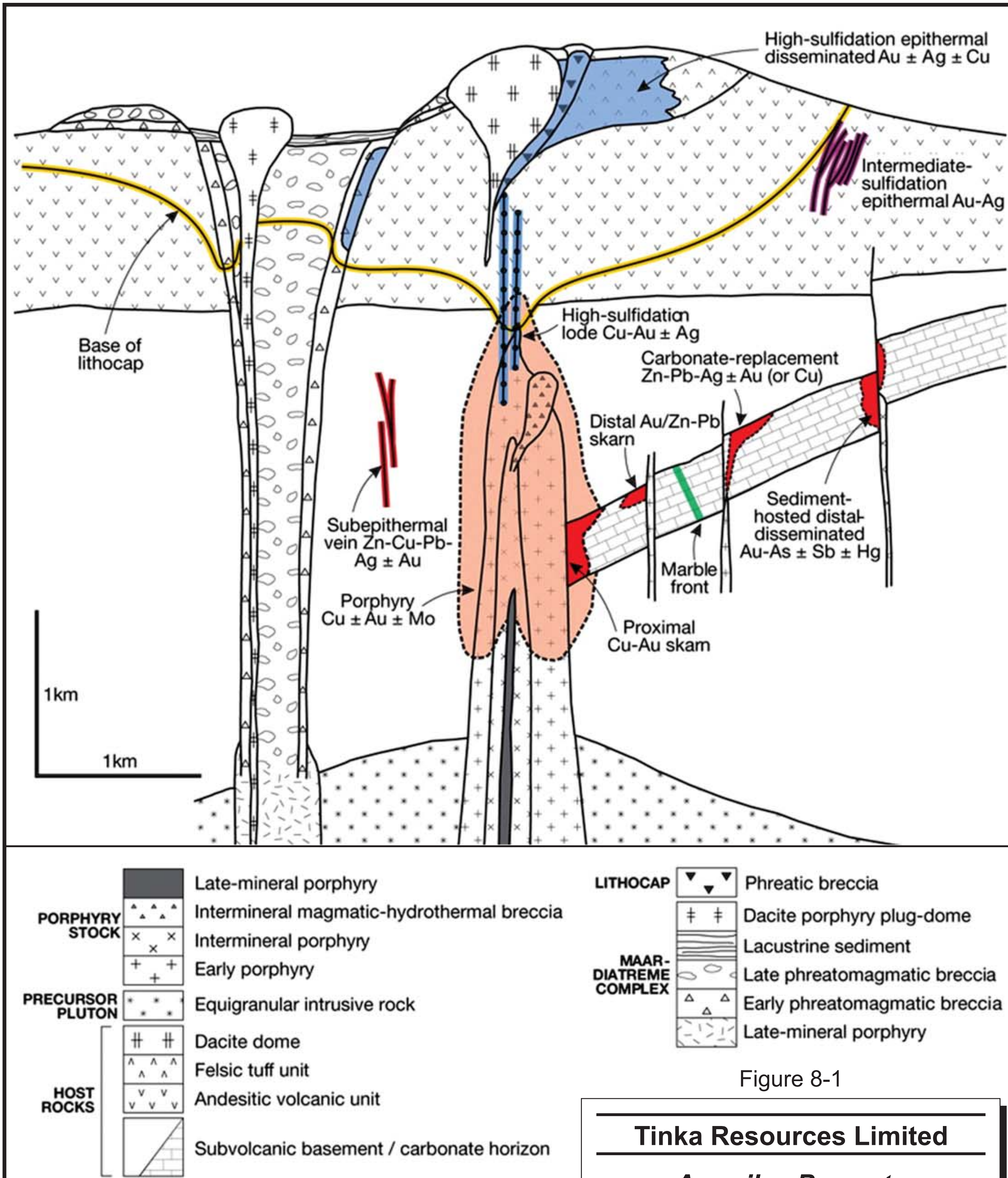


Figure 8-1

Tinka Resources Limited

Ayawilca Property

Department of Pasco, Peru

Generalized Model for CRD-Porphyry Deposits

December 2017 **Source: Sillitoe, 2010.**

9 EXPLORATION

GEOLOGICAL MAPPING

Initial geological mapping by Tinka at 1:25,000 scale was carried out in 2005 and early 2006, followed by more detailed mapping at 1:5,000 scale in late 2006. This early mapping identified high grade vein mineralization in the Goyllar sandstone above the Ayawilca deposit. Additional geological mapping in 2009 examined key structural features to better understand the geological framework and controls of the mineralization. During 2015, Tinka geologists updated the geological map using the modified stratigraphy obtained from careful relogging of all previous drill holes at Ayawilca. During 2017, detailed mapping was extended north to the Pucarumi area.

Underground mapping of the Colquipucro 3,870 m level exploration adit, developed by a previous owner in 1950-1954, was conducted at 1:500 scale.

SOIL, TRENCH, AND UNDERGROUND SAMPLING

Since acquiring the Property in 2005, Tinka has collected 1,612 rock samples and 3,644 soil samples on sampling grids located between the Colquipucro and Ayawilca zones and over the Tambillo and Pucarumi exploration targets. The Ayawilca-Colquipucro north-south soil grid lines are typically spaced 200 m apart, with additional lines spaced 100 m apart over the Ayawilca deposit and over areas with significant anomalies. The grid covers an area up to 4.6 km in an east-west direction and up to 7.1 km in a north-south direction. Significant anomalous zinc results were returned over Ayawilca, east and south of Ayawilca, and north and east of Colquipucro

The 3,870 m level adit was sampled by Tinka in 2006, and five surface trenches totalling 1.7 km in length were excavated and sampled at Colquipucro. At Zone 3, located east of Ayawilca, ten trenches were excavated and sampled. Trench sampling at Colquipucro used a motorized diamond saw to cut a 10 cm wide channel to a nominal depth and width of 5 cm. A hammer and chisel were used to extract the sample. Samples were taken by hammer and chisel only where the rock surface was irregular and not accessible to the saw.

Sampling of the 3,870 m level adit was done on a systematic basis along the walls between the drifts that accessed and exploited the high grade fault/vein structures. Initial sampling was carried out at five metre spacing, however, upon the receipt of highly anomalous silver values over significant widths, the adit was resampled at nominal two metre intervals.

Results from the trenching and underground sampling were used for exploration purposes and drill hole targeting. These data were not used to estimate Mineral Resources.

INDUCED POLARIZATION SURVEYS

In late 2006, an initial Induced Polarization (IP) survey was carried out by Fugro Geophysics Pty Ltd (Fugro) from Lima. Ten lines of pole-dipole surveying were completed, totalling eight kilometres. In 2010, Fugro extended the IP survey southward with eight pole-dipole traverse lines for 14.1 line-km. Data were collected using ten 25 m receiver dipoles with a single pole transmitter. Data were processed using three-dimensional (3D) inversion modelling and identified two target areas. The southern target area coincided with the complex fault pattern extending eastward from the Ayawilca surface showings. In 2012, Fugro returned to Ayawilca but used a set-up with a deeper penetration using 50 m receiver dipoles instead of 25 m spacing. Twelve lines were surveyed for a total of 15.5 line-km. Results of all surveys were combined, reprocessed, and interpreted using 3D modelling techniques. An additional 9.3 km were surveyed in 2013.

The IP and resistivity data sets were combined, reprocessed, and modelled using a 2D inversion modelling program (Res2DInv) and then further integrated and analyzed in a 3D model using Geosoft (Paredes, 2013). Two anomalies were identified: a shallow feature in the northwest part of the grid and a deep, larger feature in the central part. The northwestern target shows chargeability values (27 mV/V to 40 mV/V) superimposed on an area of moderate to high resistivity. The central anomaly has a high content of polarizable materials, ranging from 25 mV/V to 45 mV/V. The chargeability overlaps very low resistivity values over a distance of 800 m east-west.

Another IP survey was conducted at the Chaucha zone (500 m north of the Huahuacocha zone), located one kilometre northeast of Colquipucro. The survey consisted of 15.85 km along 14 lines oriented northeast-southwest. This survey was intended to test for conductive bodies northeast of the Chaucha fault, along which there is a large, intermittent gypsum vein over a strike length of approximately 1.5 km. Results did not identify high priority drill targets.

In 2015, Tinka carried out an extensive pole-dipole IP survey covering 25 line-km across the entire Ayawilca-Colquipucro area, using electrode spacings of 120 m. This survey has obtained complete and homogeneous IP coverage of the Ayawilca and Colquipucro deposits, to a penetration depth of approximately 400 m.

The 2015 IP survey was carried out by Fender Geophysics of Sydney, Australia. Lines were oriented at 060°. Several IP anomalies were identified, the largest and strongest of which is located to the east and northeast of the Colquipucro deposit. This anomaly typically shows very high chargeability values of 35 mV/V and above. A number of other smaller sized anomalies in +20 mV/V range occur across the Property.

GROUND MAGNETIC SURVEYS

Fugro collected ground-based magnetic data totalling 34.4 line-km in 2012. Three large magnetic features were identified over a distance of 1.5 km northeast-southwest. The central and largest anomaly trends east-southeast to west-northwest, parallel with a fault structure. Drilling in this area has identified magnetic pyrrhotite and lesser magnetite admixed with pyrite, sphalerite, and minor galena, arsenopyrite, and chalcopyrite.

In 2014, Tinka contracted Quantec Geoscience (Peru) S.A.C. to extend the ground magnetic survey. This survey included 245 line-km within an area four kilometres east-west by seven kilometres north-south at a 100 m line spacing. The data were merged with the Fugro magnetic data. Several map products were generated including Total Magnetic Field (TMF), Analytical Signal (AS), Reduction to Equator (RTE), and Vertical Derivative of Reduction to Equator (VDRE).

Due to the low angle of magnetic inclination in equatorial latitudes, the RTE operation was performed on the data. This preserves the shape of the bodies better than a Reduction to Pole manipulation of the data does in these latitudes, but the resulting anomalies are “lows” rather than “highs” (Armanti, 2014). The RTE map (Figure 9-1) shows four ovoid, east-west trending anomalies that align along a northeast-southwest orientation in the centre of the survey area. These have been at least partly explained from magnetite and magnetic pyrrhotite intersected in drill core. The AS map shows a long northwest-southeast trending linear anomaly offset by dextral (right-lateral) movement near the centre of the survey area.

In early 2016, Tinka contracted VDG del Perú S.A.C. (VDG) of Lima, Peru, to carry out an initial ground magnetic survey over the Tambillo target. A total of 25.8 line-km were surveyed over 14 east-west survey lines and one north-south tie line. Results show a weak magnetic response under the mineralized sandstone outcrops on the central part of the survey area.

GRAVITY SURVEYS

In late 2014, VDG was contracted to perform a gravity survey over the central target area at Ayawilca. The survey was performed on a square grid with stations spaced 200 m apart. Internally, specific target areas were surveyed at 100 m grid spacing. A total of 513 station readings were collected within an area approximately four kilometres east-west by four kilometres north-south. The instrument used was a Lacoste & Romberg, model G-644, with 0.005 mGal precision. Topography data was collected with an R7 Trimble, Model TSC2, base station GPS, an R8 Trimble, Model GNSS, mobile GPS, and a Trupulse, model 360R, laser distance meter. An additional 5,992 GPS readings were collected for topographic control.

The survey outlined five gravity anomalies, which are interpreted to be caused by the presence of denser material, possibly associated with mineralization. The anomalies in part coincide with the known magnetic and chargeability anomalies, covering an area approximately 2.5 km northeast-southwest by 1.5 km northwest-southeast. Only a small part (~20%) of the area of the gravity anomaly has been drill tested to date.

In late 2015, Tinka commissioned VDG to extend the gravity survey to the southern and northern limits of the Property by collecting readings on 584 additional stations, all located on a square grid with stations spaced 200 m apart. All data was collected using the same instruments as the 2014 survey.

The extended gravity survey identified additional significant gravity anomalies coincident with the phyllite basement to the north, and two elongated gravity highs on the very southernmost limit of the Property, under Goyllar sandstone (Figure 9-2). Although denser material is interpreted to lie under the Goyllar sandstone, this anomaly remains untested and poorly understood.

ELECTRO-MAGNETIC SURVEYS

In early 2016, Tinka commissioned VDG to carry out a Time Domain Electro-Magnetic survey (TDEM) over the West Ayawilca area to determine whether the higher grade zinc mineralization could be targeted using such methods. Six one-kilometre long east-west lines were completed, totalling six line kilometres. A Crone PEM 2 kW transmitter and a Crone PEM digital receiver were used, with a 500 m by 500 m stationary transmitter loop to energize conductors at depth. Repeated measurements were averaged per time window at every station before plotting.

The survey found a weak shallow conductor possibly related to the near-surface sulphide veins. No conclusive response was obtained from the West Ayawilca Zinc Zone.

AIRBORNE MAGNETIC SURVEYS

In 2016, Tinka commissioned New Sense Geophysics S.A.C. of Lima, Peru, to carry out a helicopter-based airborne magnetic survey of the entire Ayawilca Property. The survey comprised 1,255 km of north-south survey lines and east-west tie lines, spaced every 200 m, at an altitude of 70 m above surface.

The survey identified a strong magnetic anomaly roughly coincident with the Ayawilca zinc and tin resource areas, along a northeasterly trend. Massive pyrrhotite replacements and magnetite, which typically pre-date the zinc mineralization, explain this response. This magnetic anomaly extends northeast into the Zone 3 area (eastern end of Ayawilca resource) and southwest beyond the known limits of the South Ayawilca target. Other anomalies were also identified over the Chaucha, Yanapizgo, and Valley targets. Outside of the main exploration area, the survey also identified weak to moderate magnetic anomalies that Tinka geologists have followed up on surface, including at the Pucarumi target.

TOPOGRAPHIC SURVEYS

Early in 2013, Tinka contracted PRW Ingenieria y Construccion to carry out a detailed topographic survey of the Ayawilca area contiguous with the survey completed on Colquipucro over the previous year. The surveying was done using a combination of theodolite, electronic measuring devices, and GPS instruments. The survey had a nominal five metre contour accuracy, and the area covered was 2.0 km north-south by 2.5 km east-west. In addition, 11 monuments were established and surveyed for ground control in the eastern part of the target area.

Previously, late in 2011, the contractor performed a topographic survey of Colquipucro over an area of 800 m east-west by 800 m north-south to the same specifications described above. All existing drill hole collars and workings were surveyed at the same time.

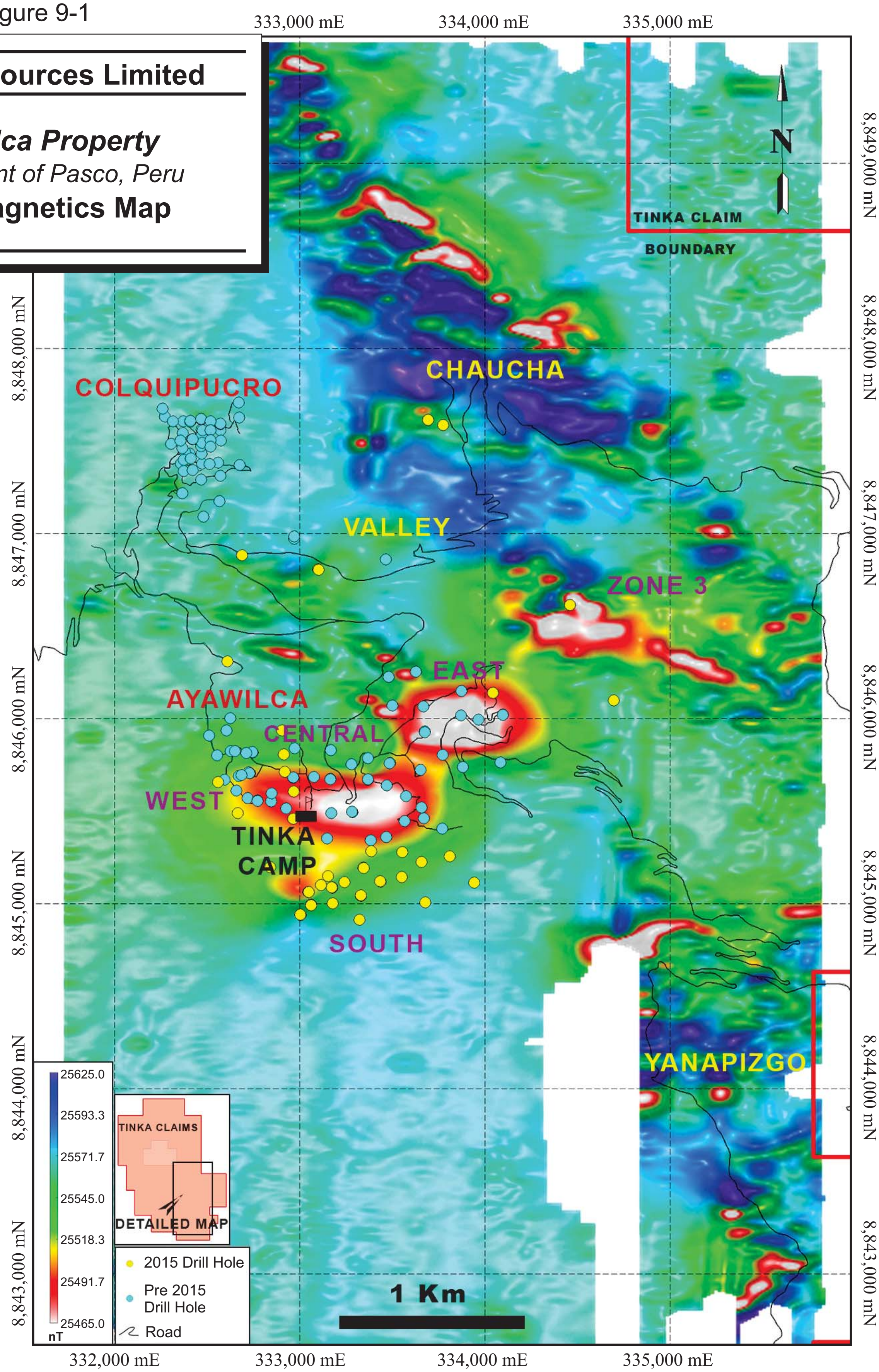
Figure 9-1

Tinka Resources Limited

Ayawilca Property

Department of Pasco, Peru

RTE Magnetics Map



December 2017

Source: Tinka Resources, 2017.

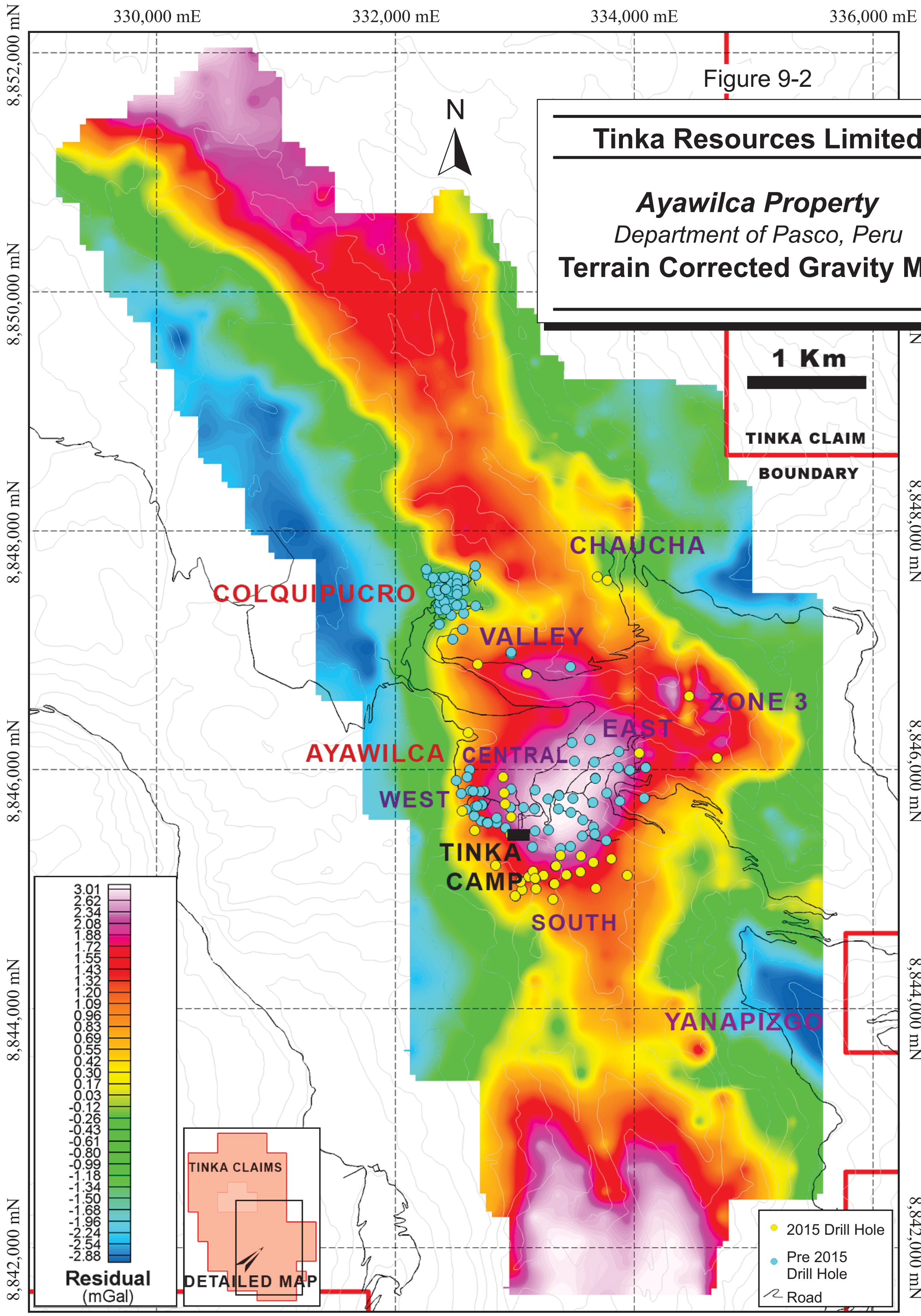


Figure 9-2

Tinka Resources Limited

Ayawilca Property

Department of Pasco, Peru

Terrain Corrected Gravity Map

December 2017

Source: Tinka Resources, 2017.

10 DRILLING

As of the effective date of this report, the drill hole database includes 50,831.2 m of drilling in 166 holes on the Property. An additional six holes (A17-095, A17-097, A17-099, A17-100, A17-101, and A17-102) have been drilled for which assay results had not yet been received. Given the location of these holes, RPA does not expect them to have a significant impact on the Mineral Resource estimate.

Table 10-1 lists the holes by area and drilling program. Figure 10-1 illustrates the collar locations of the drill holes. Tables 10-2 and 10-3 list selected significant silver and zinc results from Colquipucro and Ayawilca, respectively. Table 10-4 shows selected significant tin-copper results from Ayawilca. A full list of drill hole collars and significant intercepts, corresponding to the intervals used in the resource estimate, are provided in Appendix 1.

TABLE 10-1 DIAMOND DRILLING PROGRAMS
Tinka Resources Limited – Ayawilca Property

Drill Hole IDs	No. Holes	Length (m)	Campaign	Company	Driller
Colquipucro Deposit					
DDH-1 to DDH-4	4	694.3	1996	Buenaventura	Esondi
CDD1 to CDD15	15	2,670.3	2007	Tinka Resources	Esondi
CDD16 to CDD25	10	1,603.7	2011-2012	Tinka Resources	Iguana Drilling
CDD26 to CDD35	10	2,151.3	2013	Tinka Resources	Consorcio SC
CDD36 to CDD46	11	1,882.9	2014	Tinka Resources	Consorcio SC
Sub-total	50	9,002.5			
Ayawilca Deposits					
CDD52 to CDD71	8	1,822.1	2011	Tinka Resources	Iguana Drilling
A12-01 to A12-10	11	3,709.8	2012	Tinka Resources	Consorcio SC
A13-01 to A13-17	17	6,268.3	2013	Tinka Resources	Consorcio SC
A14-18 to A14-33	16	6,529.6	2014	Tinka Resources	Consorcio SC
A15-34 to A15-55	22	8,917.5	2015	Tinka Resources	Explomin
A17-56 to A17-98	42	14,581.4	2017	Tinka Resources	AK Drilling
Sub-total	116	41,828.7			
Total	**166**	**50,831.2**			

TABLE 10-2 SIGNIFICANT DRILL HOLE RESULTS AT COLQUIPUCRO
Tinka Resources Limited – Ayawilca Property

Hole	From (m)	To (m)	Core Length (m)	Estimated True Thickness (m)	Uncut Ag (g/t)	Cut Ag (g/t)	Domain
CDD6	0	8	8	7	103	98	High Grade Lens
CDD6	8	14	6	5	27	27	Low Grade Halo
CDD6	14	22	8	7	67	67	High Grade Lens
CDD6	22	28	6	5	39	39	Low Grade Halo
CDD6	28	38	10	9	140	140	High Grade Lens
CDD6	38	44	6	5	98	98	Low Grade Halo
CDD6	44	52	8	7	139	139	High Grade Lens
CDD6	52	60	8	7	44	44	Low Grade Halo
CDD6	60	66	6	5	44	44	High Grade Lens
CDD6	114	118	4	4	212	114	High Grade Lens
CDD45	4	6	2	2	72	72	High Grade Lens
CDD45	6	16	10	9	26	26	Low Grade Halo
CDD45	16	30	14	13	105	105	High Grade Lens
CDD45	30	40	10	9	49	49	Low Grade Halo
CDD45	40	59	19	17	167	134	High Grade Lens
CDD45	59	68	9	8	24	24	Low Grade Halo
CDD45	68	70	2	2	82	82	High Grade Lens
CDD45	70	78	8	7	20	20	Low Grade Halo
CDD45	78	86	8	7	119	119	High Grade Lens
CDD45	86	92	6	5	20	20	Low Grade Halo
CDD45	92	96	4	4	106	106	High Grade Lens
CDD45	96	114	18	16	31	31	Low Grade Halo
CDD45	114	116	2	2	178	178	High Grade Lens
CDD45	116	130	14	13	24	24	Low Grade Halo
CDD45	130	140	10	9	132	132	High Grade Lens

Note: Silver was cut to 360 g/t Ag in the high grade lenses and 120 g/t Ag in the low grade halo.

TABLE 10-3 SELECTED DRILL HOLE ZINC RESULTS AT AYAWILCA
Tinka Resources Limited – Ayawilca Property

Hole	From (m)	To (m)	Core Length (m)	Estimated True Thickness (m)	Zn (%)	In (ppm)	Ag (g/t)	Pb (%)	Domain
A12-04A	264.0	278.0	14.0	14	9.58	172	12	0.03	WEST
A13-05	130.3	179.5	49.2	49	10.09	51	32	0.55	WEST
A13-05	316.0	343.2	27.2	27	7.49	320	22	0.05	WEST
A14-20	179.9	184.0	4.2	4	24.79	205	58	1.04	WEST
A14-22	211.2	242.0	30.8	30	7.70	65	10	0.02	WEST
A14-22	283.5	318.5	35.0	33	6.31	121	16	0.35	WEST
A14-26	288.0	303.8	15.8	15	11.27	207	18	0.07	WEST
A14-33	270.9	279.7	8.8	8	13.49	8	11	0.13	WEST
A12-08	195.5	232.0	36.5	36	6.52	63	5	0.02	CENT
A12-08	266.0	282.0	16.0	16	7.32	206	9	0.02	CENT
A12-08	318.9	322.8	3.9	3	6.93	45	4	0.01	CENT
A12-09	236.0	244.0	8.0	7	6.34	154	8	0.02	CENT
A13-01	228.0	235.2	7.2	7	8.54	241	6	0.01	CENT
A13-04	190.0	198.0	8.0	7	8.36	109	6	0.02	CENT
A14-18	331.2	352.0	20.8	21	6.08	33	13	0.23	EAST
A14-18	375.1	408.0	32.9	33	6.27	14	10	0.49	EAST
A14-29	322.0	329.8	7.8	8	6.15	13	7	0.06	EAST
A14-29	400.0	412.0	12.0	12	7.03	10	4	0.02	EAST
A15-38	268.0	280.0	12.0	12	5.41	114	14	0.02	CENT
A15-52	312.0	324.7	12.7	12	5.31	119	6	0.04	CENT
A15-53	346.0	360.7	14.7	14	5.99	103	12	0.02	CENT
A17-056	242	293.9	51.9	50	10.06	233	128	0.10	SOUTH
A17-057	265.75	279.3	13.55	12	22.26	297	111	2.66	SOUTH
A17-061	220	233.4	13.4	13	18.73	463	57	0.87	SOUTH
A17-063	302.2	349.9	47.7	45	11.3	312	18	0.01	SOUTH
A17-066	345	350	5	5	11.28	270	37	0.06	SOUTH
A17-069	271.4	300.7	29.3	28	10.36	278	17	0.06	SOUTH
A17-089	218.6	229.4	10.8	10	16.71	681	33	0.05	SOUTH

TABLE 10-4 SELECTED DRILL HOLE TIN-COPPER RESULTS AT AYAWILCA
Tinka Resources Limited – Ayawilca Property

Hole	From (m)	To (m)	Core Length (m)	Estimated True Thickness (m)	Sn (%)	Cu (%)	Ag (g/t)
A13-01	308.0	326.0	18.0	18	0.66	0.57	12
A13-04	344.0	358.0	14.0	14	0.33	0.90	39
A13-11	330.0	336.0	6.0	6	1.98	1.19	43
A13-12A	326.0	348.0	22.0	22	0.65	0.17	6
A14-21	310.0	318.0	8.0	8	0.44	0.07	23
A15-035	340.0	352.0	12.0	12	0.40	0.15	1
A15-036	366.3	373.0	6.8	7	0.40	0.15	14
A15-039	380.0	392.0	12.0	12	1.13	0.18	2
A15-040	328.0	378.5	50.5	50	0.96	0.16	15
A15-043	312.0	326.0	14.0	14	0.82	0.44	10
A15-044	350.6	365.4	14.9	15	1.10	0.36	26
A15-045	377.6	400.4	22.8	22	0.02	0.03	2
A15-049	395.6	403.4	7.8	7	1.05	0.30	14
A15-052	388.5	392.0	3.5	3	0.42	0.06	8
A17-056	214	225	11	10	0.67	0.03	5
A17-063	369	374.5	5.5	5	1.22	0.21	16
A17-063	275	286	11	10	1.80	0.04	6
A17-069	206	230.5	24.5	23	0.45	0.04	6
A17-070	356.8	364	7.2	7	0.78	0.25	33
A17-070	285	301.7	16.7	15	0.50	0.04	9

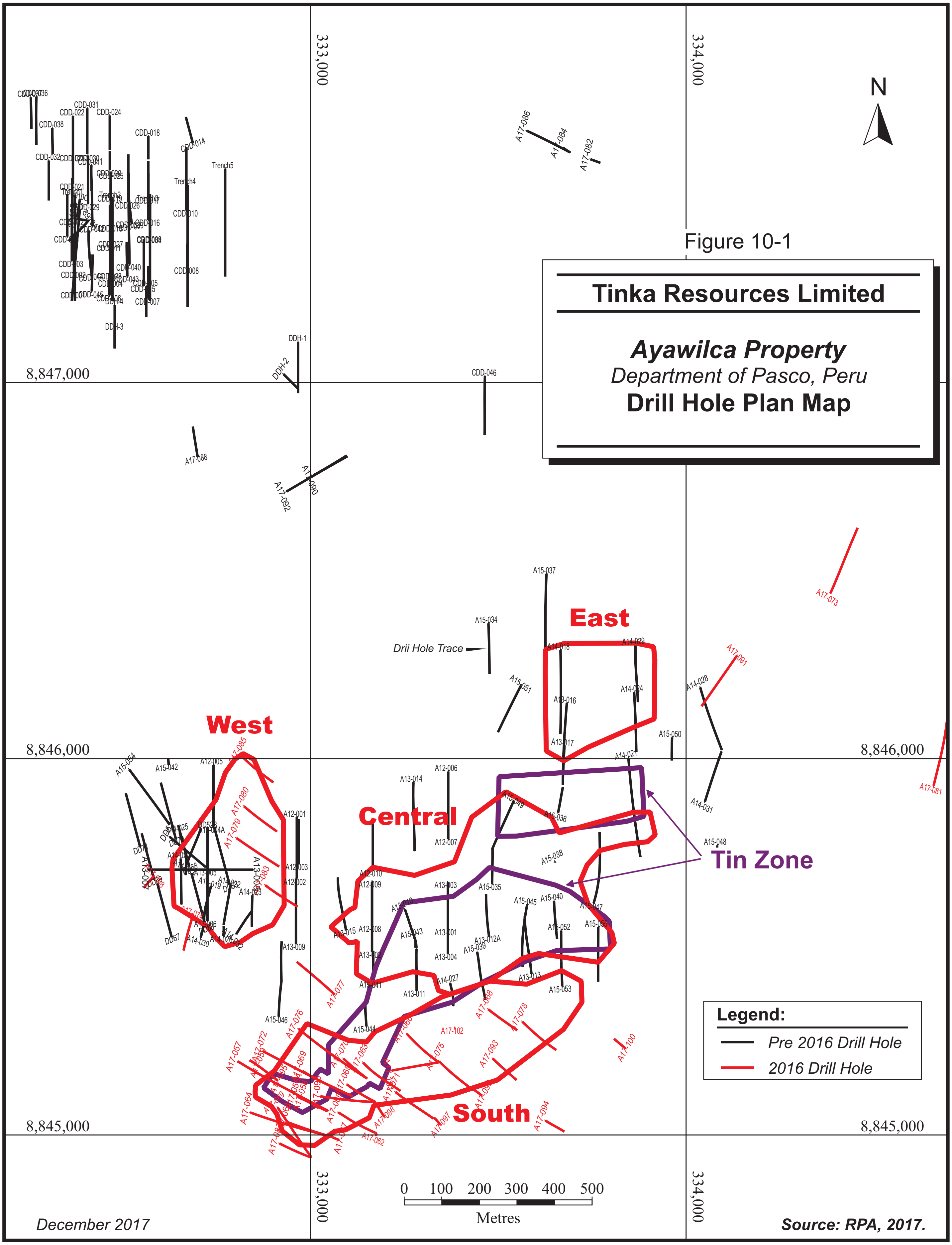


Figure 10-1

Tinka Resources Limited

Ayawilca Property

Department of Pasco, Peru

Drill Hole Plan Map

Buenaventura drilled four holes south and southeast of the Colquipucro deposit. These holes appear to have been planned to explore the carbonate stratigraphy beneath the oxidized mineralization at Colquipucro. None intersected high grade zinc mineralization, although anomalous zinc values were intersected in all four holes.

In 2007, Tinka contracted Expertos En Sondajes Diamantinos S.A. (Esondi) to complete 15 holes for 2,670.3 m at Colquipucro collared on 100 m spaced lines. Esondi used a Hydracore Model Gopher diamond drill rig with HQ size equipment, reducing to NQ when required. Most holes were angled towards the south. The drill hole orientation was taken at the collar using a compass and inclinometer. No downhole orientation surveys were made. This drilling was intended as resource drilling to define a lower-grade bulk tonnage target as discovered from underground sampling in 2006.

Resource definition drilling at Colquipucro was extended northward in 2011 and 2012 with ten additional holes by Iguana Drilling S.A.C. using a Hydracore Portable rig with HQ size equipment, reducing to NQ as required. The azimuth and dip of the collars were taken at the collar using a compass and inclinometer. No downhole orientation surveys were made.

During 2012, using the same equipment as the Colquipucro campaign, a drilling program at West Ayawilca took place to test for near-surface, sandstone-hosted, silver mineralization similar to Colquipucro. The first seven angle holes within the Goyllar sandstone did not intersect significant silver mineralization. The eighth hole, DD53, reached the Pucará Formation contact at 172 m depth and intersected intermittent semi-massive mineralization in the underlying carbonate rocks. This is considered the discovery hole for the zinc mineralization at Ayawilca.

Tinka contracted Consorcio S & C S.A.C. (Consorcio) for drilling in 2013 and 2014. Consorcio used four different rigs:

- LY – Model LF-70
- LY – Model 44
- Atlas Copco Model CS-3000
- Sandvik Model 7-10

All rigs used HQ size equipment, reducing to NQ as required. The orientation was taken at the collar using a compass and inclinometer. No downhole orientation surveys were made during 2013. In 2014, a Reflex Maxibore II downhole instrument measured hole deviation every 1.5 m. Drill hole deviation was not significant. The objective of the drilling at Colquipucro was to infill to provide 50 m spaced section lines. The primary objective at Ayawilca was to discover additional mineralization.

For the 2015 drilling campaign, Tinka contracted Explomin Perforaciones S.A.C. (Explomin). Explomin used up to two Sandvik DE-710 rigs between August and November 2016. All core was oriented to obtain adequate structural readings and all holes were surveyed using a non-magnetic gyroscope. All of the 2015 drill campaign was completed with HQ sized core equipment.

For the 2017 drilling campaign, Tinka contracted AK Drilling International S.A.C. (AK Drilling). AK Drilling used up to three Sandvik DE-710 rigs and one modified Bradley-250 man portable rig between February and October 2017. All core was oriented and all the holes were surveyed using a non-magnetic gyroscope. Four holes were not completed to target depth, and one hole (A17-56A) is a daughter hole wedged from drill hole A17-56, where a core barrel was lost. All of the 2017 drill campaign used HQ sized core equipment, with some holes being completed with NQ sized equipment and one hole with BQ sized core equipment.

The drill hole deviation was not surveyed for the first 35 holes at Colquipucro and the first 19 holes at Ayawilca. Given the length of these unsurveyed holes, equipment, drill hole spacing, and the minor deviations shown in surveyed holes, RPA does not consider the missing downhole survey data to be an issue.

Collars were surveyed in 2011 and 2013 by PRW Ingenieriá y Construccion surveying company, in 2015 by Lima based surveying company Proyectistas Tecnicos del Peru SAC, and in 2017 by Lima based PeruLand SAC and Servtop SAC using a combination of Total Station and differential GPS.

The current drill hole spacing at Colquipucro is nominally 50 m by 50 m, but can be tighter in the core of the deposit. Most holes were drilled towards the south, and angled between -50° and -60°. Drill sections at Central Ayawilca are approximately 100 m apart and oriented north-south. Holes are commonly angled steeply to either the north or south (between 60° and 85°). At South Ayawilca, drill sections are spaced approximately 100 m apart and oriented northwest-southeast, with holes generally angled steeply to the northwest and occasionally to the southeast (between 55° and 85°).

Core recovery is generally good, allowing for representative samples to be taken and accurate analyses to be performed. There are intervals of low recovery, commonly associated with recent faulting. The length, location, and relationship with the mineralization was checked with respect to the resource modelling.

A Tinka geologist was present at the drill rig to end each hole. Once the hole was completed, casings were pulled and the location was identified with a cement monument. Drill sites were rehabilitated.

All drill core from the Tinka drilling programs is stored in a gated and secured facility located on the main road in the town of Ambo, 70 km to the northeast of the Property.

RPA has not identified any drilling, sampling, or core recovery issues that could materially affect the accuracy or reliability of the core samples.

DRILL CORE LOGGING

Drill core was transported by Tinka personnel once daily to a core handling facility located on the Property. Technicians checked the depth markers and box numbers, reconstructed the core, and calculated core recoveries. Geologists created quick logs, logged rock quality designation (RQD), marked out sample intervals, and assigned sample numbers. All drill core was then photographed wet with a digital camera before splitting. Detailed logging of lithology, alteration, oxidization, and structure was completed by the qualified, responsible geologist and the paper copies were scanned and saved as digital images. Since early 2015, all logging has been done digitally directly onto a Maxwell database, allowing for easier data compilation, data validation, quality control, and interpretation. Geological logging was uploaded directly onto Leapfrog software for modelling.

11 SAMPLE PREPARATION, ANALYSES AND SECURITY

All samples from the 2007 drill program and the initial drill program conducted at Ayawilca in 2011 were prepared and analyzed by Laboratorio Plenge - C.H. Plenge & Cia. S.A. (Plenge) in Lima, Peru. All samples from both Ayawilca and Colquipucro from subsequent drill campaigns were analyzed by SGS Laboratories (SGS) in Lima until early in 2014. During the 2014 drill program, all Ayawilca samples were analyzed by SGS, and all Colquipucro samples were analyzed by Certimin S.A. (Certimin). All samples from the 2015 Ayawilca drill program were analyzed by SGS. SGS is ISO 9001:2008 and ISO 14001:2004 certified. Samples from the 2017 Ayawilca drill program were analyzed by SGS and/or ALS laboratories in Lima. ALS Lima is an ISO 9001:2008 certified laboratory.

In RPA's opinion, the sample preparation, analysis, and security procedures at the Property are adequate for use in the estimation of Mineral Resources.

SAMPLE PREPARATION

Sample intervals and numbers were assigned at site by Tinka geologists. Most drill core was sampled using constant two metre intervals. Drill core was split using a diamond saw at Tinka's core facility located in Ambo. To avoid sampling bias, the left side of the sawn core was bagged and the right side was returned to the box for storage. Samples were tracked using three part ticket booklets. One tag was stapled into the core box at the start of the appropriate sample interval, one tag was placed into the sample bag, and the final tag was retained in the sample booklet for future reference. For each sample, the date, drill hole number, property name, and sample interval depths were noted in the sample booklet.

On average, one standard or one blank was inserted, alternately, after every ten samples. The frequency was subsequently decreased to every fifteen samples, however, during the 2017 program, Tinka reverted to inserting one control sample after every ten samples. Samples were shipped by Tinka personnel directly to the laboratory in Lima.

Samples sent to Plenge were prepared using method S-P-2007, which involved drying in oven at 80°C followed by jaw crushing and roll crushing. The crushers were cleaned with compressed air between samples and with barren calcite after every 10 samples. A 250 g split, using a Jones splitter, was pulverized to 80% passing -200 mesh using a ring and puck pulverizer.

Samples sent to SGS were prepared using method PRP93, which involved drying in oven at 100°C followed by jaw crushing. The sample was crushed to 90% passing -10 mesh size. The crusher was cleaned with compressed air between samples. A 250 g split, using a Jones splitter, was pulverized to 95% passing -140 mesh using a ring and puck pulverizer.

Samples sent to ALS were prepared using method PREP31, which involved drying in oven at 100°C followed by jaw crushing. The sample was crushed to 70% passing -10 mesh size. The crusher was cleaned with compressed air between samples. A 250 g split, using a Jones splitter, was pulverized to 85% passing -200 mesh using a ring and puck pulverizer

Samples sent to Certimin were prepared using method G0634, which involved drying in oven at 100°C followed by jaw crushing and roll crushing to 90% passing -10 mesh (2 mm). The crushers were cleaned with compressed air between samples. A 250 g split, using a Jones splitter, was pulverized to 85% passing -200 mesh (75 µm using a ring and puck pulverizer).

SAMPLE ANALYSES

Sample analysis methods by drill hole are summarized in Tables 11-1 and 11-2. In general, silver was determined by inductively coupled plasma (ICP) following a multi-acid digestion of HCl (hydrochloric acid), HNO_3 (nitric acid), HF (hydrofluoric acid), and $HClO_4$ (perchloric acid). Over-limit thresholds varied by laboratory. The over-limit method for high grade silver was a standard fire assay (FA) followed by an atomic absorption spectroscopy (AAS) finish, or at Plenge, a FA followed by a gravimetric finish. Zinc was also analyzed by atomic emission spectroscopy with ICP (ICP-AES) following a multi-acid digestion. Over-limit zinc, silver, and lead were analyzed using AAS. Indium was analyzed by mass spectrometry with ICP (ICP-MS) using multi-acid digestion. Over-limit indium was analyzed using AAS. Tin was analyzed by ICP-AES following a multi-acid digestion. Certain samples reporting values over 100 ppm Sn were sent for re-assay for tin by fusion with sodium peroxide and AAS finish (SGS) or by pressed powder technique analyzed using XRF (ALS).

TABLE 11-1 ANALYTICAL METHODS AT COLQUIPUCRO - SILVER
Tinka Resources Limited – Ayawilca Property

Drill Hole IDs	No. Holes	No. Assays	Analytical Method	Over-Limit (g/t Ag)	Over-Limit Method	Laboratory
DDH-1 to DDH-4*	04	156	ICP	200	AAS	Bondar Clegg
CDD1 to CDD15	15	1,333	AAS	1,000	FA-Gravity	Plenge
CDD16 to CDD35	20	1,774	ICP (ICP40B)	100	AAS	SGS
CDD36 to CDD45**	10	765	ICP (G0153)	25	AAS	Certimin
CDD46	01	107	ICP (ICM40B)	10	AAS	SGS
TOTAL	**50**	**4,135**				

Notes:
* drilled by Buenaventura.
** Over-limit 1,000 ppm Ag (AAS), re-analysis by FA-Gravity.

TABLE 11-2 ANALYTICAL METHODS AT AYAWILCA - ZINC
Tinka Resources Limited – Ayawilca Property

Drill Hole IDs	No. Holes	No. Assays	Analytical Method	Over-Limit	Over-Limit Method	Laboratory
CDD52 to CDD71	8	907	ICP	1%	AAS	Plenge
DD52B	1	158	ICP (ICP40B)	1%	AAS	SGS
A12-01 to A12-10	10	1,289	ICP (ICP40B)	1%	AAS	SGS
A13-01 to A14-18	18	2,689	ICP (ICP40B)	1%	AAS	SGS
A14-19 to A14-25	7	1,210	ICP (ICP40B)	1%	AAS	SGS
A14-26 to a14-33	8	1,320	ICP (ICM40B)	1%	AAS	SGS
A15-34 to A15-55	22	3,805	ICP (ICM40B)	1%	AAS	SGS
A17-56 to A17-70	16	1,995	ICP (ICM40B)	1%	AAS	ALS
A17-71 to A17-98	26	3,369	ICP (ICM40B)	1%	AAS	SGS
TOTAL	**116**	**16,742**				

Notes: No. holes may not match with drill hole IDs
AAS = atomic absorption
ICP or ICP40B = optical ICP
ICM40B = masa ICP
FA= fire assay
No. Assays includes QA/QC samples

DENSITY MEASUREMENTS

Tinka has performed 278 density measurements in total. Sample spacing ranged from 10 m to 60 m down hole, but on average was 20 m to 30 m. Additional sampling was done from the basement phyllites to support gravity geophysical survey. The samples were taken from a variety of lithological and mineralogical types. Each sample was sawn core and from 10 cm to 20 cm long. Photographs and brief descriptions were taken before sending to SGS or ALS for density determinations. Samples were coated in paraffin wax to preserve the porosity.

In 2017, a total of 86 samples were selected from eight drill holes at South Ayawilca for density measurements to be used in the updated resource estimate for the Zinc Zone. Samples were selected randomly from within the resource domains and were taken from a variety of lithological, alteration, and mineralogical types. Each sample was sawn half core and from 10 cm to 20 cm long. Photographs and brief descriptions were taken before sending to ALS Lima for density determinations. Samples were coated in paraffin wax to preserve the porosity. A further six samples from three drill holes from within the Tin Zone resource domains were collected for density measurements at SGS. A further eight samples were collected from representative massive to semi-massive pyrrhotite lenses with known tin mineralization.

Density data was collected onsite by Tinka personnel using the weight in air and weight in water method, whereby metallic trays with core were weighed in air and then under water. Following a review of check samples sent to ALS Lima for density determination, the field data was shown to have a bias, was deemed to be inadequate for resource estimation purposes, and was discarded. A review of the methodology used found that several inconsistencies were caused by clerical errors when entering weights and measurements being taken despite air bubbles developing under the tray when dipped underwater. RPA recommends that Tinka improve the system and continue these measurements during future drill campaigns.

A total of 90 samples were selected at Colquipucro. Sample spacing averaged 10 m to 15 m. Most samples were from the Goyllar sandstone. The samples were also documented, as described above. SGS measured the density using the weight in air and weight in water method. Samples were coated in paraffin wax to preserve the porosity.

QUALITY ASSURANCE AND QUALITY CONTROL

Quality assurance (QA) consists of evidence to demonstrate that the assay data has precision and accuracy within generally accepted limits for the sampling and analytical method(s) used in order to have confidence in the resource estimate. Quality control (QC) consists of procedures used to ensure that an adequate level of quality is maintained in the process of sampling, preparing, and assaying the drill core samples. In general, QA/QC programs are designed to prevent or detect contamination and allow analytical precision and accuracy to be quantified.

The laboratories are assessed by a review of assays of certified reference material (CRM), or standards, and by check assaying at outside accredited laboratories. Assay precision is assessed by reprocessing duplicate samples from each stage of the analytical process from the primary stage of sample splitting, through sample preparation stages of crushing/splitting, pulverizing/splitting, and assaying.

Tinka's QA/QC protocol consists of the regular insertion of blanks, standards, and field duplicates within each sample batch. Table 11-3 shows the number of QC samples submitted to ALS Lima, Certimin, and SGS. Tinka began submitting field duplicates as part of its QA/QC program in 2015.

In RPA's opinion, the QA/QC program as designed and implemented by Tinka is adequate, and the assay results within the database are suitable for use in a Mineral Resource estimate.

TABLE 11-3 QA/QC SUMMARY
Tinka Resources Limited – Ayawilca Property

Metal	Blanks		Standards		Field Duplicates	
	No.	Failure No. or %	No.	Values outside 3SD or %	No.	Failure No. or %
Zn	549	16 or 3.7%	1,510	11 or 0.98%	356	6 or 2.3%
In	260	0 or 0.0%	322	0%	296	1 or 0.5%
Pb	549	0 or 0.0%	972	1 or 0.17%	321	6 or 2.6%
Ag	549	4 or 0.9%	625	0%	337	8 or 3.2%
Sn	580	0 or 0.0%	66	0%	355	3 or 1.1%
Cu	549	1 or 0.2%	1,040	12 or 1.72%	321	2 or 0.9%

BLANKS

The regular submission of blank material is used to assess contamination during sample preparation and to identify sample numbering errors. The Tinka QA/QC protocol called for blanks to be inserted in the sample stream at a rate of approximately one in twenty samples. The blanks were inserted into the sample stream prior to shipment to the laboratory. Certified blanks were obtained from CDN Resources Laboratories Ltd. (CDN), British Columbia, Canada. In addition, a "sterile", barren rock was inserted alternately with the certified blank starting with the 2014 drill program. The barren rock is not certified.

Four failures for silver, sixteen failures for zinc, and no failures for tin were recorded (Figures 11-1 to 11-3).

Blanks in 2017 were purposely submitted after high grade zinc mineralization. ALS informed Tinka that it cleaned equipment after each sample with air, but not always with sterile quartz. Given the high grades intersected in 2017, this may have resulted in the higher zinc values. Tinka reports that it has re-assayed the failed batches and the new data appears acceptable.

The impact of these failures is considered to be of no consequence due to the low grades reported. In RPA's opinion, the results of the blanks are within acceptable limits, and the data can be used for resource estimation purposes.

FIGURE 11-1 BLANKS – SILVER RESULTS

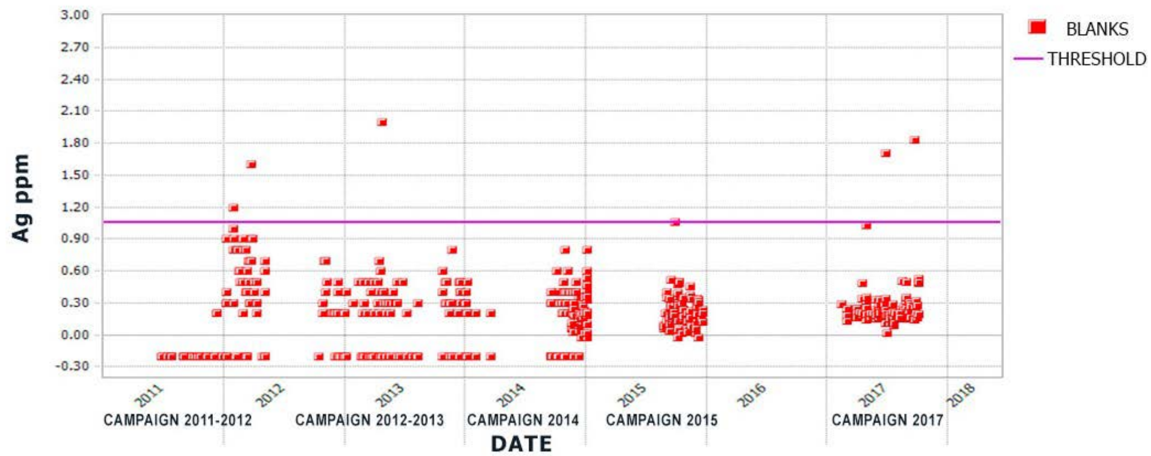


FIGURE 11-2 BLANKS – ZINC RESULTS

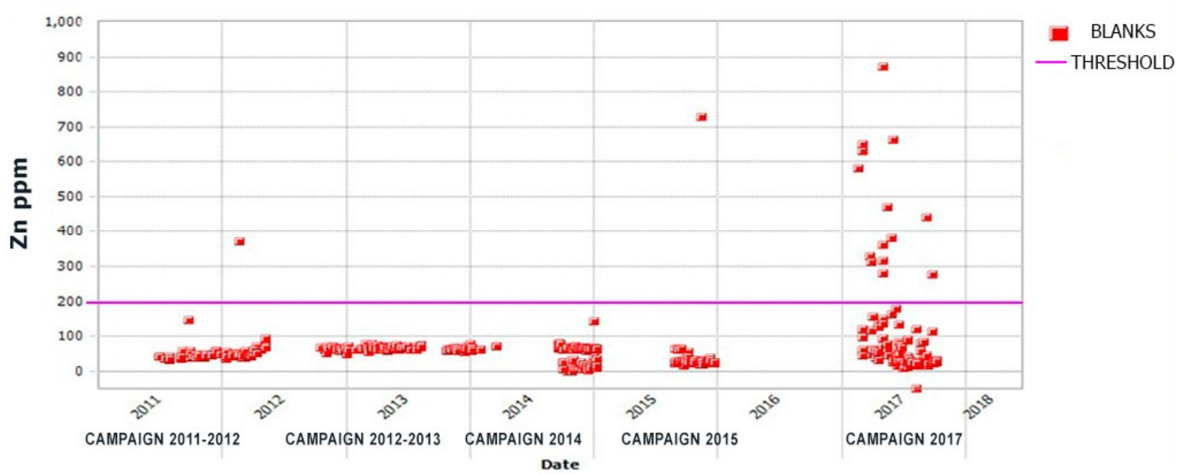
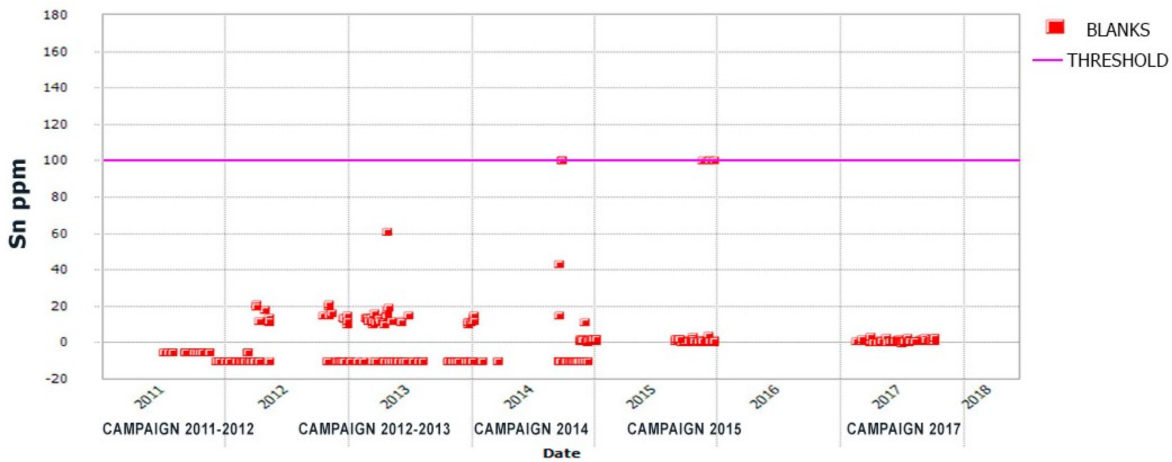


FIGURE 11-3 BLANKS – TIN RESULTS



CERTIFIED REFERENCE MATERIAL (STANDARDS)

Results of the regular submission of CRMs are used to monitor analytical accuracy and to identify potential problems with specific batches. Tinka inserts CRM samples at a rate of approximately one in a batch of ten samples. RPA is of the opinion that the CRM insertion rate exceeds industry standards. Tinka purchased CRMs from CDN and Ore Research & Exploration Pty Ltd (OREAS) and has also generated three of its own CRMs (TK-STD-01 to -03). Table 11-4 lists the recommended values for the CRMs. The CRM summary results for zinc and tin are listed in Tables 11-5 and 11-6, respectively.

TABLE 11-4 EXPECTED VALUES AND RANGES OF CRMS
Tinka Resources Limited – Ayawilca Property

CRM	Metal unit / 1SD	Metal unit / 1SD	Metal unit / 1SD
CDN-ME-14	Ag (ppm) 42.3/±4.2	Zn (%) 3.100/±0.280	
CDN-ME-17	Ag (ppm) 38.2/±3.3	Zn (%) 7.340/±0.370	
CDN-ME-1211	Ag (ppm) 86.3/±8.1	Zn (%) 0.2/±0.008	
CDN-ME-1303	Ag (ppm) 152.0/±10.0	Zn (%) 0.931/±0.048	
CDN-ME-1101	Ag (ppm) 68.20/±4.60	Zn (%) 1.560/±0.090	
CDN-ME-06	Ag (ppm) 101.00/±7.10	Zn (%) 0.517/±0.040	
CDN-ME-08	Ag (ppm) 61.70/±4.70	Zn (%) 1.920/±0.080	
TK-STD-01	Ag (ppm) 12.34/±0.92	Zn (%) 2.61/±0.040	In (ppm) 7.19/±0.62
TK-STD-02	Ag (ppm) 9.17/±0.42	Zn (%) 5.91/±0.100	In (ppm) 130.50/±13.54
TK-STD-03	Ag (ppm) 21.22/±1.48	Zn (%) 11.61/±0.610	In (ppm) 415.00/±27.60
TR-11210	Ag (ppm) 259.0/±13.0	Zn (%) 5.04/±0.250	
OREAS-36	Ag (ppm) 10.17/±0.63	Zn (%) 4.23/±0.060	
OREAS-37	Ag (ppm) 5.19/±0.63	Zn (%) 6.26/±0.150	
OREAS-38	Ag (ppm) 5.49/±0.63	Zn (%) 10.06/±0.140	
OREAS-140	Sn (ppm) 1777.0/±42.0	Cu (ppm) 1529.0/±82.0	
OREAS-141	Sn (ppm) 6061.0/±339.0	Cu (ppm) 2453.0/±98.0	
OREAS-142	Sn (%) 1.04/±0.05	Cu (ppm) 1466.0/±65.0	

TABLE 11-5 SUMMARY OF THE CRM RESULTS FOR ZINC
Tinka Resources Limited – Ayawilca Property

Parameter	CDN-ME-1101	CDN-ME-06	CDN-ME-08	CDN-ME-1101	CDN-ME-06	CDN-ME-08	CDN-ME-1101
No. Assays	76	72	71	72	110	75	103
Minimum (%)	2.88	6.84	0.236	0.886	1.45	0.052	1.68
Maximum (%)	3.21	7.42	0.257	0.993	1.63	0.576	2.05
Average (%)	3.03	7.06	0.250	0.950	1.56	0.484	1.92
CRM (%)	3.10	7.34	0.243	0.931	1.56	0.517	1.92
- 3SD (%)	2.26	6.23	0.171	0.787	1.29	0.397	1.68
+ 3SD (%)	3.94	8.45	0.315	1.075	1.83	0.637	2.16
No. values outside 3SD	0	0	0	0	0	1	0
% outside 3SD	0.00%	0.00%	0.00%	0.00%	0.00%	1.33%	0.00%

	TK-STD-01	TK-STD-02	TK-STD-03	TR11210	OREAS-36	OREAS-37	OREAS-38
No. Assays	171	156	97	33	38	29	16
Minimum (%)	2.47	5.65	10.80	4.87	3.94	5.89	9.79
Maximum (%)	2.76	6.86	12.40	5.10	4.33	6.40	10.45
Average (%)	2.61	5.87	11.73	4.99	4.14	6.17	10.09
CRM (%)	2.61	5.91	11.61	5.04	4.23	6.26	10.06
- 3SD (%)	2.49	5.61	9.78	4.29	4.05	5.81	9.64

	TK-STD-01	TK-STD-02	TK-STD-03	TR11210	OREAS-36	OREAS-37	OREAS-38
+ 3SD (%)	2.73	6.21	13.44	5.79	4.41	6.71	10.48
No. values outside 3SD	5	1	0	0	4	0	0
% outside 3SD	2.92%	0.64%	0.00%	0.00%	10.53%	0.00%	0.00%

TABLE 11-6 SUMMARY OF THE CRM RESULTS FOR TIN
Tinka Resources Limited – Ayawilca Property

Parameter	OREAS-140	OREAS-141	OREAS-142
No. Assays	11	16	7
Minimum (%)	0.170	0.580	1.1
Maximum (%)	0.210	0.610	1.65
Average (%)	0.2	0.590	1.05
CRM (%)	0.176	0.606	1.04
- 3SD (%)	0.139	0.504	0.89
+ 3SD (%)	0.212	0.708	1.19
No. values outside 3SD	0	0	0
% outside 3SD	0%	0%	0%

In RPA's opinion, the CRM grades cover a reasonable range with respect to the overall resource grades.

Specific pass/fail criteria are determined from the standard deviations provided for each CRM. The conventional approach for setting standard acceptance limits is to use the mean assay ± two standard deviations as a warning limit and ± three standard deviations as a failure limit. Results falling outside of the ± three standard deviation failure limit must be investigated to determine the source of the erratic result, either analytical or clerical. Examples of selected CRM results are discussed individually below.

CDM-ME-08

The silver and zinc control charts for CDM-ME-08 for the earlier drill campaigns are shown in Figures 11-4 and 11-5, respectively. All of the silver and zinc sample values are reported within three standard deviations.

FIGURE 11-4 CDN-ME-08 – SILVER

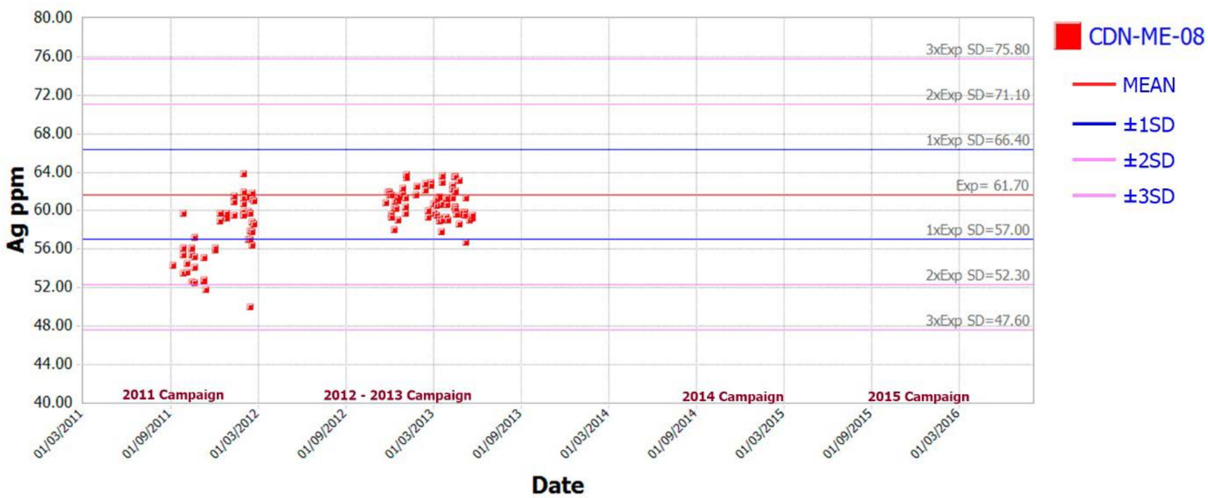
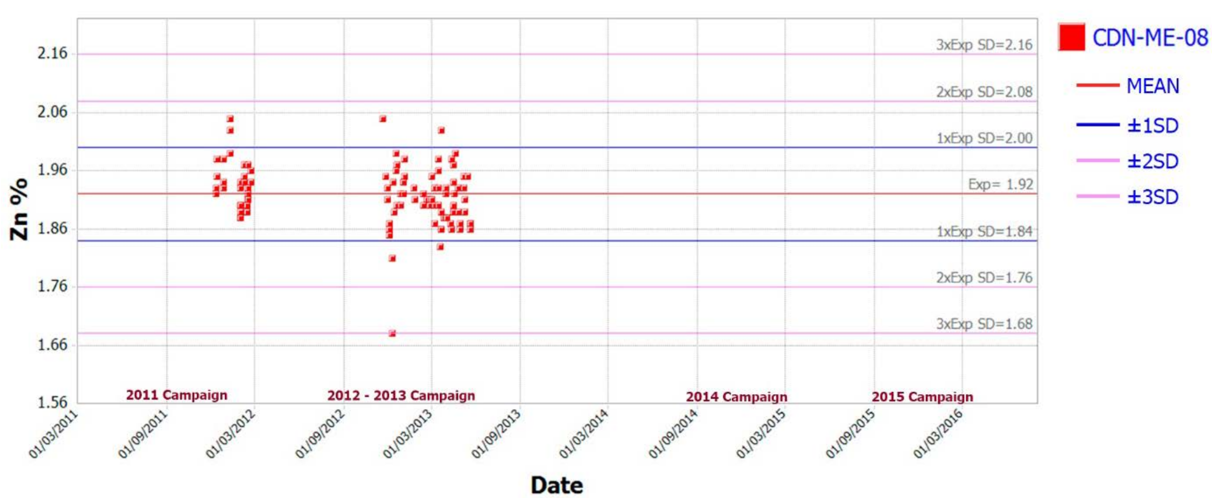


FIGURE 11-5 CDN-ME-08 – ZINC



CDM-ME-14

The silver and zinc control charts for CDM-ME-14 are shown in Figures 11-6 and 11-7, respectively. All of the silver and zinc sample values are reported within three standard deviations. A slight high bias for silver is observed. Zinc shows an even distribution around the mean.

FIGURE 11-6 CDN-ME-14 – SILVER

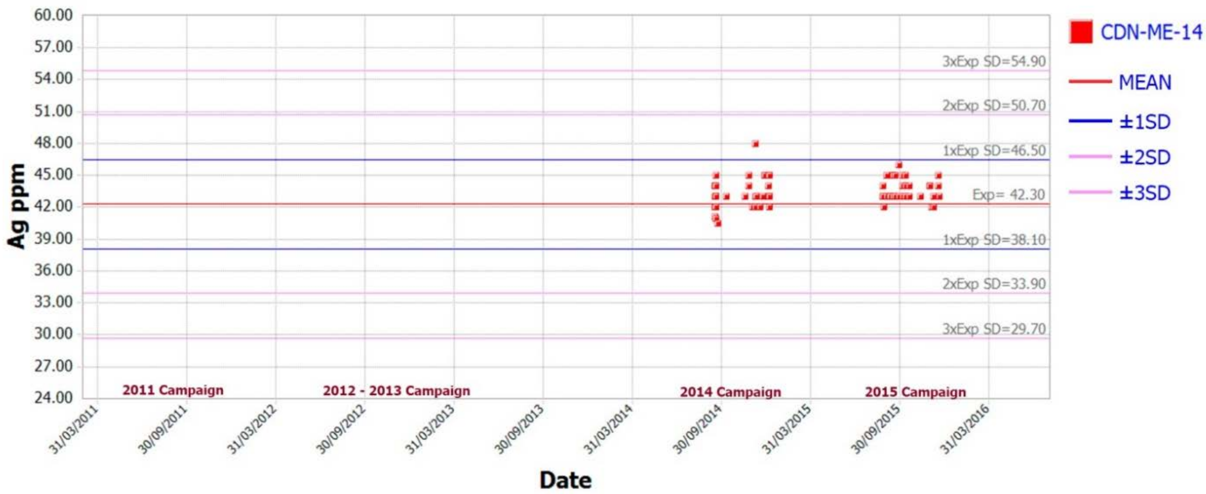
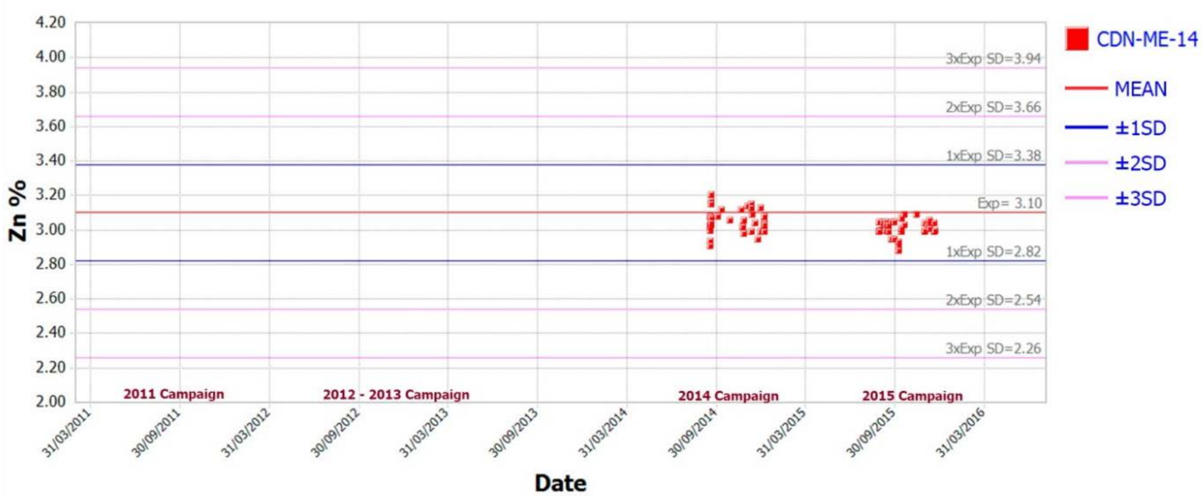


FIGURE 11-7 CDN-ME-14 – ZINC



CDM-ME-17

The silver and zinc control charts for CDM-ME-17 are shown in Figures 11-8 and 11-9, respectively. All of the silver and zinc sample values are reported within three standard deviations. A slight high bias for silver and a slight low bias for zinc are seen in both the SGS (2016) and ALS (2017) results.

FIGURE 11-8 CDN-ME-17 – SILVER

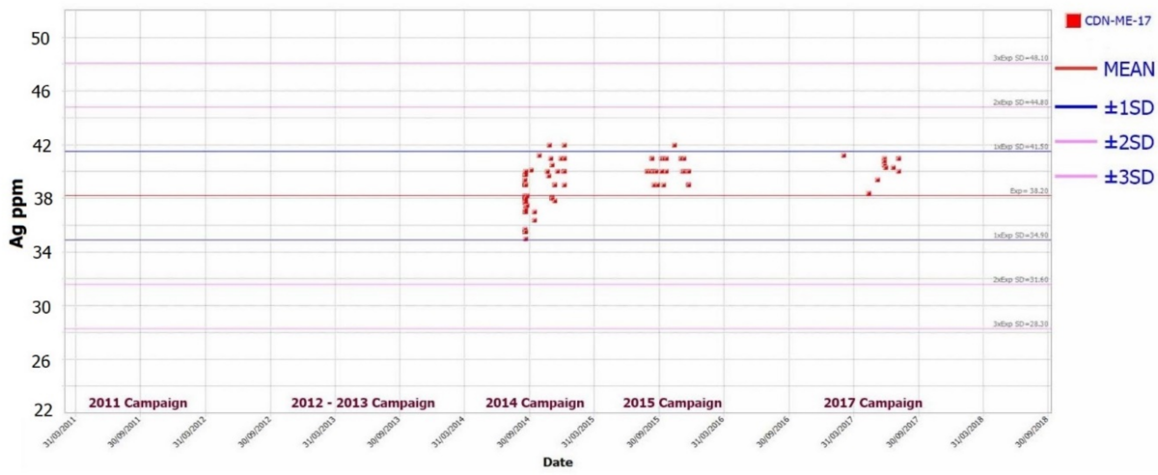
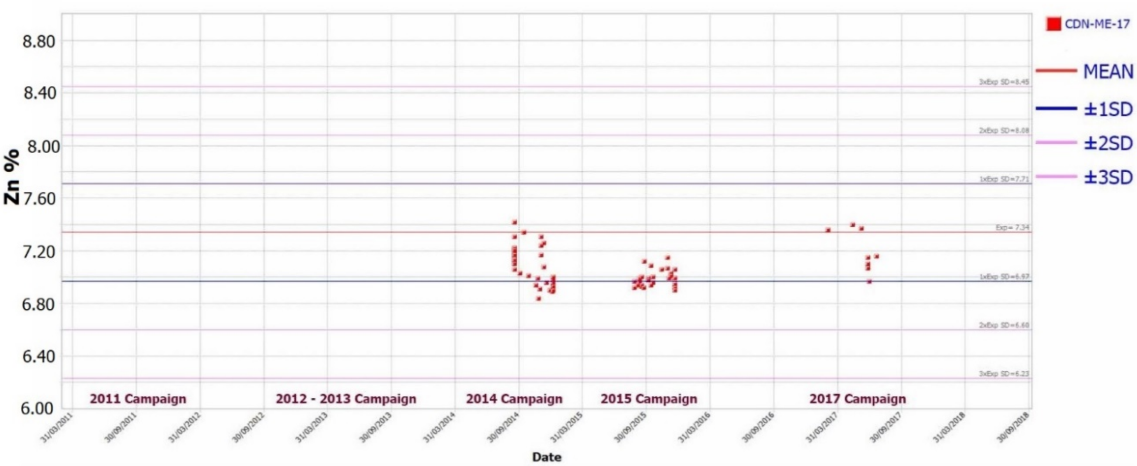


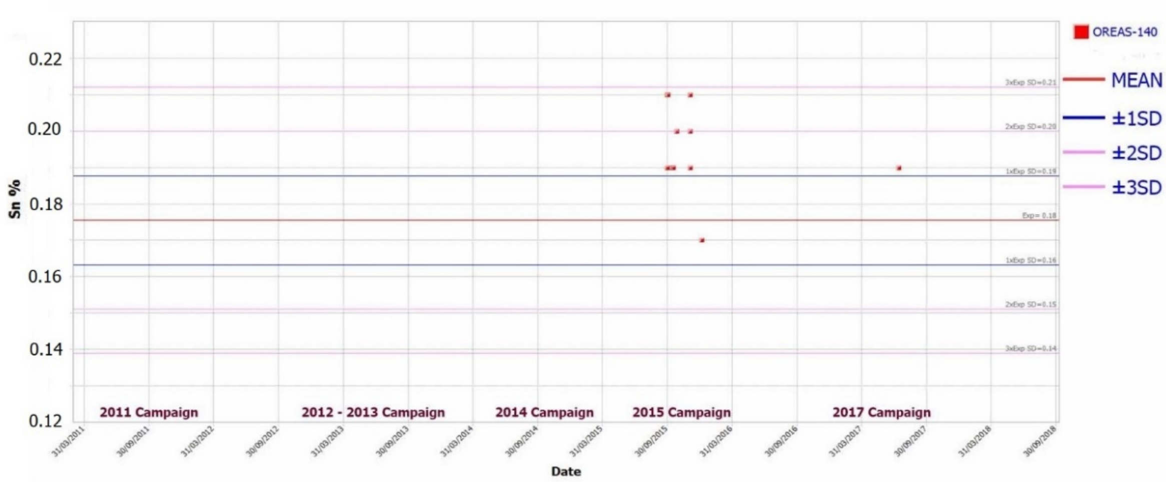
FIGURE 11-9 CDN-ME-17 – ZINC



OREAS-140

The tin control chart for OREAS-140 is shown in Figure 11-10. Results are within three standard deviations.

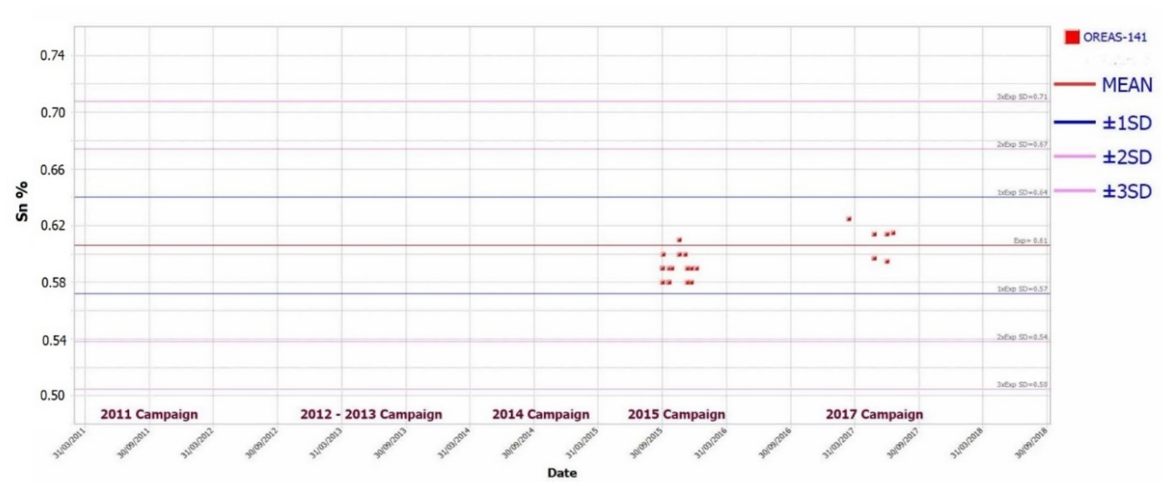
FIGURE 11-10 OREAS-140 – TIN



OREAS-141

The tin control chart for OREAS-141 is shown in Figure 11-11. Results are within three standard deviations.

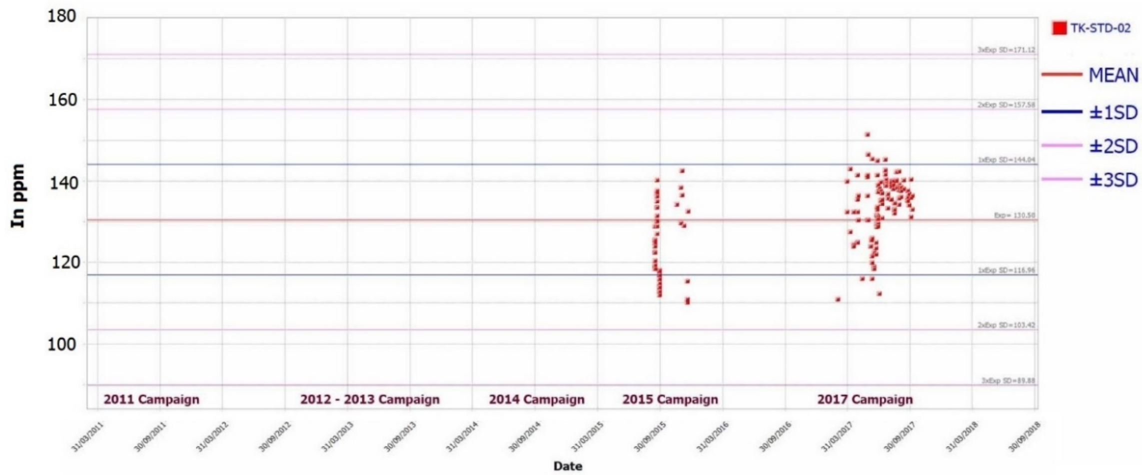
FIGURE 11-11 OREAS-141 – TIN



TK-STD-02

The indium control chart for TK-STD-02 is shown in Figure 11-12. Results are within three standard deviations.

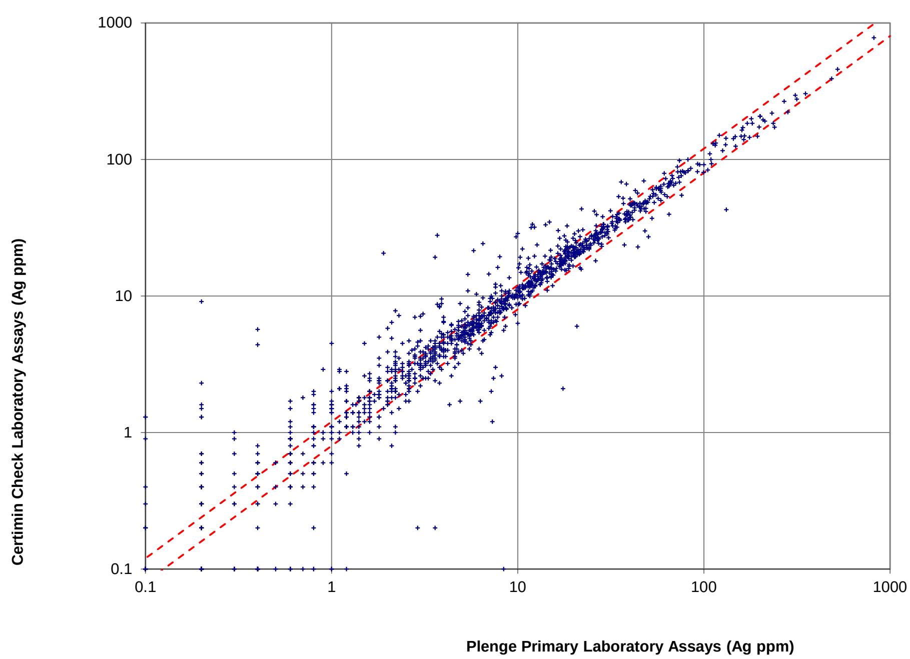
FIGURE 11-12 TK-STD-02 – INDIUM



CHECK SAMPLES

RPA reviewed 1,220 sample pulps from the Colquipucro deposit analyzed at Plenge that Tinka sent to Certimin for referee check assays. The results for silver, after the removal of eight outliers, gave a correlation coefficient of 0.989, which is good. Results from Certimin average only 1.3% higher than the primary laboratory. Wider differences are seen at grades less than 60 g/t Ag (Figure 11-13).

FIGURE 11-13 CHECK ASSAYS – SILVER



FIELD DUPLICATES

Tinka inserts a field duplicate approximately every 20 regular samples. Half core was quartered by Tinka geologists and sent for analysis with the same batch as the original sample, though with a different sample number. A total of 143 field duplicate samples were used for the 2015 to 2017 campaigns (Figures 11-14 to 11-16).

FIGURE 11-14 ZINC XY SCATTERPLOT OF FIELD DUPLICATE DATA

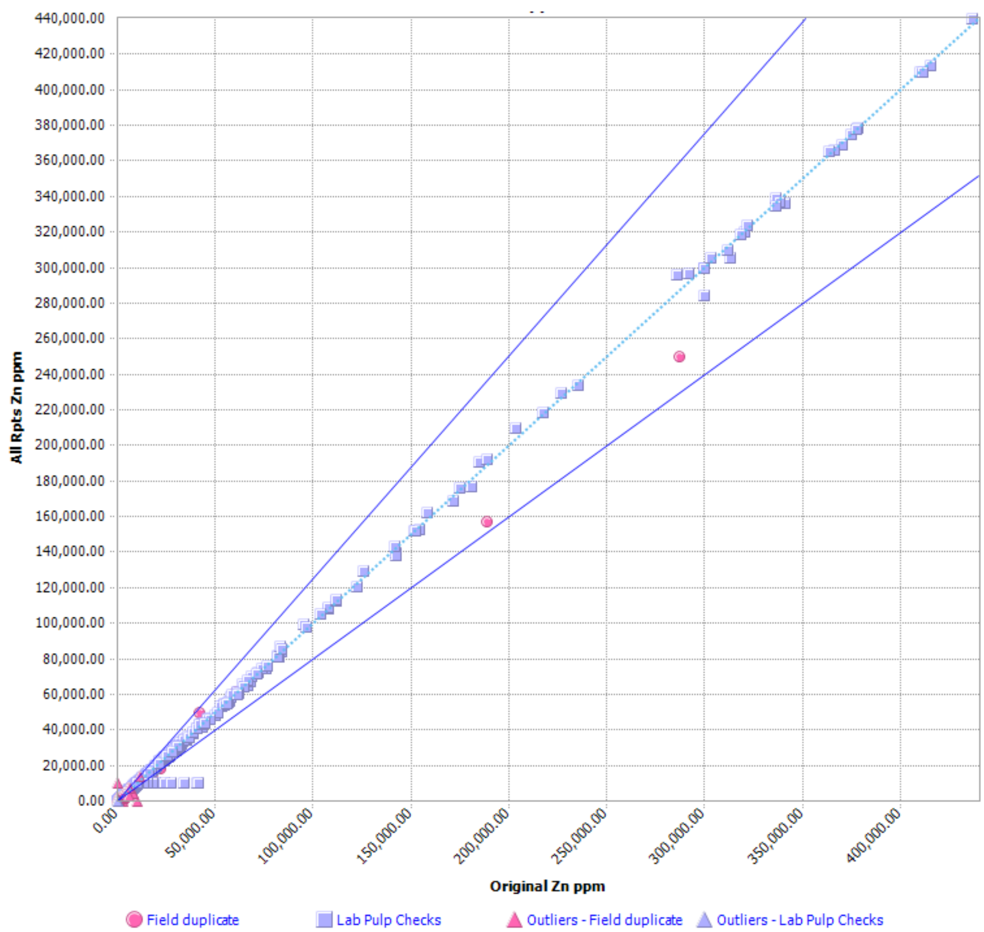


FIGURE 11-15 SILVER XY SCATTERPLOT OF FIELD DUPLICATE DATA

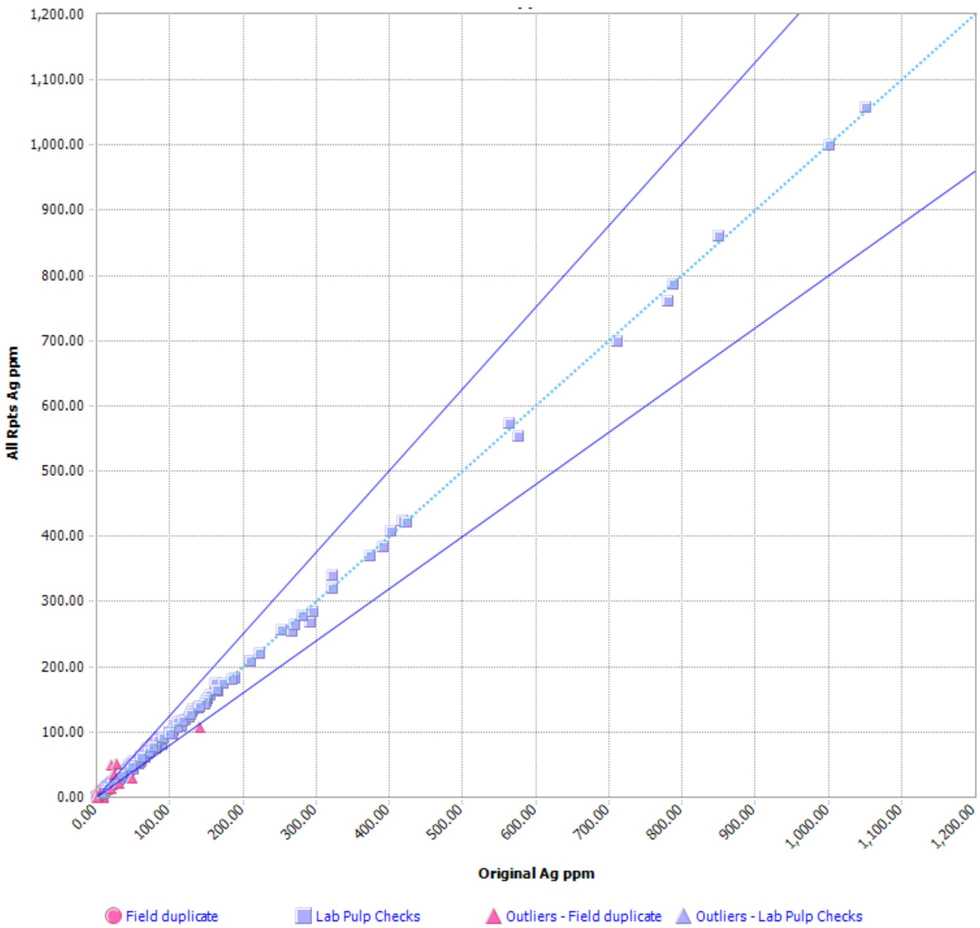
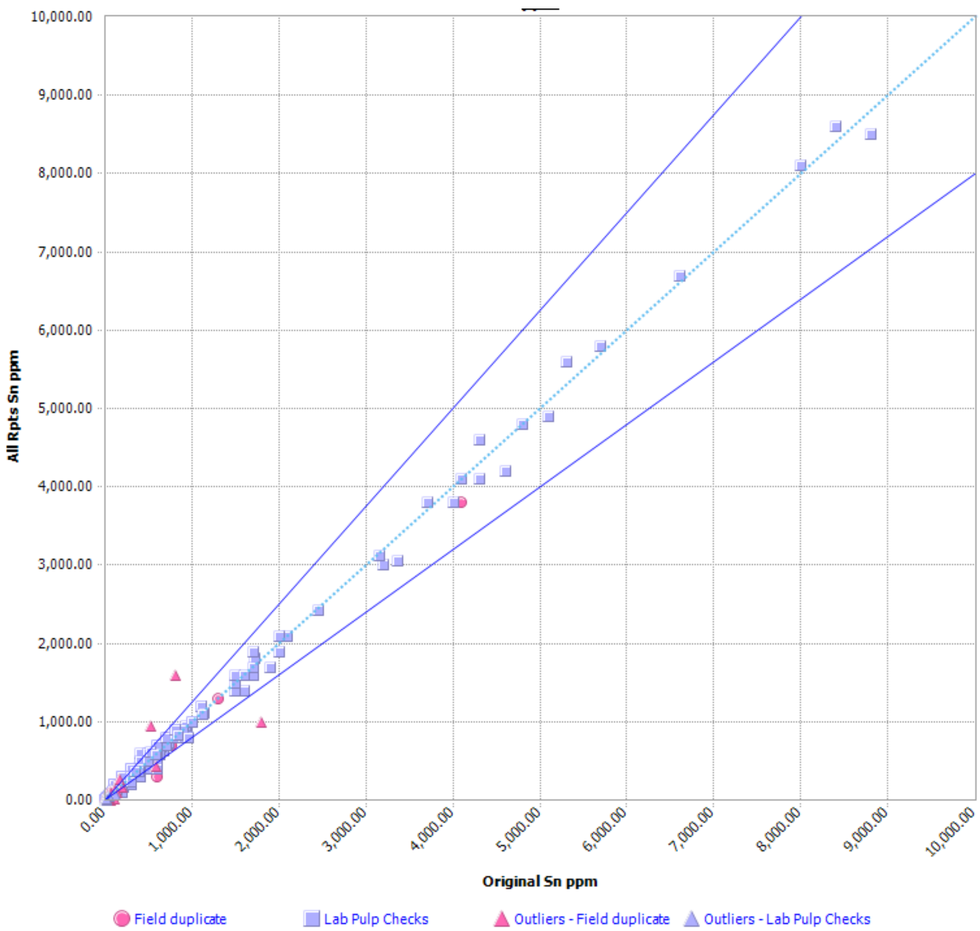


FIGURE 11-16 TIN XY SCATTERPLOT OF FIELD DUPLICATE DATA



SAMPLE SECURITY

Core boxes are transported by company vehicle from the drill to the camp logging facility, and again by company vehicle to the gated facility located in Ambo. Samples are split and bagged under direct supervision of a company geologist. Once bagged, and prior to shipping to Lima in a Tinka vehicle, samples were secured in a locked cage located within the gated facility in Ambo.

Analytical data were sent using electronic transmission of the results. SGS, ALS, and Certimin sent the results to designated recipients at Tinka. The data came in both Excel (unprotected) and as official, encrypted, and password protected PDF files. The electronic results are secured using WINZIP encryption and password protection.

Drill core is stored in covered storage areas within the fenced and access-controlled property located on the main road in the town of Ambo. The core boxes are labelled, and depth markers have been placed at appropriate intervals. Pulps and coarse reject materials are stored at Abil Corporacion, S.A.C., logistics operator, specializing in sample storage and transport, in Lima. The drilling, sampling, and logging are carried out under the direct supervision of experienced technical people.

12 DATA VERIFICATION

Data verification of the drill hole database included manual verification against hardcopy and original digital sources, a series of digital queries, and a review of Tinka's QA/QC procedures and results which are described in Section 11, Sample Preparation, Analyses and Security. RPA is of the opinion that database verification procedures for the Property comply with industry standards and are adequate for the purposes of Mineral Resource estimation.

David Ross, P.Geo., Principal Geologist with RPA and an independent Qualified Person, visited the Property and other related facilities from December 11 to 14, 2014 and again from January 11 to 13, 2016. He visited the core shacks, examined drill core and outcrops, and held discussions with Tinka geological and technical staff. In 2014, Mr. Ross was able to observe the drilling in progress at Ayawilca and noted that the work was being carried out in a competent fashion, using modern equipment that appeared to be in good repair and appropriate for the job.

MANUAL DATABASE VERIFICATION

The review of the resource database included header, survey, lithology, assay, and density tables. Database verification was performed using tools provided within the Dassault Systèmes GEOVIA GEMS Version 6.8 software package (GEMS). As well, the assay and density tables were reviewed for outliers. A visual check on the drill hole GEMS collar elevations and drill hole traces was completed. No discrepancies were identified.

RPA compared assay records for silver, zinc, and lead in the resource database to the digital laboratory certificates of analysis, which were received directly from SGS and Certimin. This included twelve certificates with 799 assays from Ayawilca and 14 certificates with 736 assays from Colquipucro. In 2016, RPA compared tin values from five SGS certificates. In 2017, RPA compared values for the six main metals of interest to six assay certificates, three from SGS and three from ALS, with a focus on intervals within the resource wireframes. No discrepancies were found.

INDEPENDENT CHECK SAMPLES

During the site visits, Mr. Ross selected and marked out a total of six samples of Colquipucro and the Tin Zone at Ayalwilca for duplicate analysis. The specified intervals were quarter split by Tinka technicians under the supervision of Mr. Ross. The samples were bagged, tagged, and sealed in plastic bags and delivered to SGS Lima by Mr. Ross. Silver and tin were analyzed by atomic absorption, SGS codes AAS41B and AAS90B respectively.

The independent sampling by RPA confirms that there is significant silver and tin mineralization in the drill holes sampled (Tables 12-1 and 12-2). Confirmation of zinc and copper mineralization at Ayawilca was made by observing numerous intervals with significant sphalerite and chalcopyrite.

TABLE 12-1 CHECK SAMPLE RESULTS FOR SILVER
Tinka Resources Limited – Ayawilca Property

Hole	From (m)	To (m)	Original Ag (g/t)	RPA Ag (g/t)
CDD 6	30	32	264	277
CDD 19	62	64	342	284
CDD 21	42	44	136	110
CDD 21	44	46	270	175

TABLE 12-2 CHECK SAMPLE RESULTS FOR TIN
Tinka Resources Limited – Ayawilca Property

Hole	From (m)	To (m)	Original Sn (%)	RPA Sn (%)
A15-039	372	374	0.46	0.39
A15-052	358.2	359	1.28	1.41

OTHER DATA VERIFICATION TESTS

The drill collar sites have been re-surveyed and verified several times since drilling began in 2007. Collars from the 2007 and 2011-2012 campaigns were originally surveyed by hand-held GPS, and then by professional surveyors in late 2011 and again in 2012 during the topographic survey. Many of the holes were re-surveyed again by transit in late 2014. The results were compared and reconciled to the previous coordinates each time holes were re-surveyed.

Check samples from selected pulps from the 2007 drill program were submitted to IPL Laboratories in Richmond, British Columbia, Canada, and check samples from the 2011-2013 programs were sent to ALS Chemex Laboratories in Lima. In 2014, Tinka re-assayed 1,220 pulp samples at Certimin that had originally been done at Plenge. Overall, no bias was detected.

13 MINERAL PROCESSING AND METALLURGICAL TESTING

In 2016, Tinka completed initial metallurgical flotation tests of zinc sulphide samples from the Ayawilca. Work was carried out by SGS Peru under the supervision of Transmin Consultants of Lima, Peru. A summary of the methods and results are provided in a Transmin report:

- Transmin Consultants Fase 1 Pruebas Metalúrgicas de Flotación, September 30, 2016

Three documents summarize the metallurgical test work completed for the Colquipucro mineralization. There has been no metallurgical test work done on the Ayawilca mineralization.

- C.H. Plenge & CIA SA (Plenge), Investigación Metalúgica No. 7327-28, Proyecto Colquipucro – Pillao, Muestras CDD 6 y CDD 13 Cyanidation, April 27, 2009
- SGS Mineral Services (SGS), Preliminary Study – Bottle and Columns Cyanidation Tests Final Report, September 2012
- Uppdrag – Mineralresurser (Uppdrag), Mineralogical Analyses of Silver-rich Concentrates from Peru, July 13, 2010

FLOTATION TESTS OF ZINC SULPHIDE SAMPLES

Initial flotation tests of two composite quarter-core samples from West Ayawilca Zinc Zone mineralization were carried out by SGS Peru under the supervision of Transmin Consultants in 2016 (Transmin, 2016). One composite sample graded approximately 10% Zn and the other sample, approximately 7% Zn. Results of these tests confirm that the zinc sulphide mineralization is amenable to industry standard flotation processing. Zinc recoveries of 98% were produced in first pass (rougher) flotation tests from the two composites. Zinc concentrate grades of 51% Zn and 52% Zn were achieved in third pass (cleaner) flotation "open cycle" tests. Indium recoveries were similar to the zinc, suggesting that indium occurs together with the zinc sulphides and may be bound into the sphalerite mineral lattice. Zinc in these samples is predominantly high-iron sphalerite (marmatite) with the concentrate grading between 13% Fe and 14% Fe. Manganese, cadmium, and arsenic were low and below penalty levels in the concentrates.

The flotation techniques applied in these tests used accepted industry standard reagents, and three stages of open cycle cleaner flotation. The two composite samples were ground to 80%

passing (P_{80}) 106 µm. A thionocarbamate collector was used with a high pH (pH of 11) in order to depress pyrite and arsenopyrite in the rougher tests. A regrind of P_{80} 37 µm was used for the cleaner tests. Locked cycle tests are required before final recoveries can be projected.

A lead-silver concentrate from the zinc-rich sulphide material from Ayawilca has not yet been attempted.

TIN MINERALOGY AND INITIAL RECOVERY TESTS

Three samples of tin mineralization from the Ayawilca Tin Zone were submitted to ALS Laboratories Queensland (via ALS Peru) for mineral liberation analysis. This technique uses a scanning electron microscope fitted with customized software to determine quantitative mineralogical data (ALS Australia, 2016). Two samples were of pyrrhotite-rich tin mineralization and a third sample was of phyllite hosted quartz-sulphide-tin mineralization. The tests confirmed that cassiterite (SnO_2) is by far the most dominant tin mineral in all samples (>90%). Stannite (tin copper sulphide) represented approximately 5% to 10% of the tin mineralization in each sample. Herzenbergite (tin sulphide), natanite, and schoenfliesite (tin hydroxides) occur as trace minerals. Pyrrhotite was by far the dominant gangue mineral in the sulphide rich material, while quartz-muscovite-siderite-pyrite was the dominant gangue in the phyllite hosted mineralization.

Several tin bearing samples from Ayawilca were sent to SGS (UK) for an initial study to scope out the metallurgical conditions to produce a tin concentrate with reasonable recoveries (SGS UK, 2016). Gravity release analysis of the sized feed material showed that tin starts to liberate at a size of approximately 125 microns. The sample responded to magnetic separation, however, there was significant entrainment of tin in the magnetic sample. Froth flotation tests on the feed material was able to remove 97% of the sulphur to a rougher concentrate corresponding to a tin loss of 39%. Upon regrinding this concentrate and further cleaning using froth floatation, 13% of the tin was recovered. Further testing using froth flotation of the sulphides and gravity separation of the tailings to recover the gravity recoverable tin was recommended.

CYANIDE LEACHING TESTS OF COLQUIPUCRO MINERALIZATION

Plenge completed preliminary bottle roll tests on two samples from the Colquipucro mineralization in 2009. The samples were designated CDD 6 and CDD 13. A summary of the analytical information for the head samples is shown in Table 13-1.

TABLE 13-1 PLENGE METALLURGICAL SAMPLE HEAD ANALYSES
Tinka Resources Limited – Ayawilca Property

Sample	Ag g/t	Cu %	Fe %	As ppm	Pb %	Sb ppm	S_T %	$S_{S=}$ %	C_T %	C_{org} %
CDD 6	79.7	0.0	2.4	201	0.23	59	0.29	0.06	0.14	0.05
CDD 13	132.1	0.0	1.4	204	0.11	62	0.26	0.04	0.05	< 0.01

The tests were completed using three different grind sizes (i.e., 80% passing (P_{80}) 74 µm, 44 µm, and 37 µm) using three different cyanide concentrations (i.e., 0.20% NaCN, 0.25% NaCN, and 0.50% NaCN). One set of test conditions was completed with and without activated carbon (i.e., carbon-in-leach (CIL)).

Results showed that the recovery is dependent upon the head grade of the sample and particle size (Tables 13-2 and 13-3). There also appears to be a relationship between the cyanide concentration and the silver extraction between 0.2% NaCN and 0.25% NaCN. The cyanide consumption is also higher for the tests that were completed using the higher cyanide concentrations.

TABLE 13-2 PLENGE CDD 6 TEST RESULTS
Tinka Resources Limited – Ayawilca Property

Test No.	P_{80}	[NaCN] %	CIL	Calc Head Ag, g/t	Residue Ag, g/t	Extraction Ag, %	NaCN kg/t	CaO kg/t
1	74	0.25	No	79.3	8.2	89.7	3.5	1.2
2	44	0.25	No	81.0	6.8	91.6	4.9	1.2
3	37	0.25	No	79.7	7.0	91.2	5.7	1.2
5	37	0.20	No	78.3	6.6	91.6	5.0	1.2
6	37	0.50	No	80.7	7.2	91.1	6.2	1.2
4	37	0.25	Yes	79.9	7.8	90.3	6.5	1.2

TABLE 13-3 PLENGE CDD 13 TEST RESULTS
Tinka Resources Limited – Ayawilca Property

Test No.	P_{80}	[NaCN] %	CIL	Calc Head Ag, g/t	Residue Ag, g/t	Extraction Ag, %	NaCN kg/t	CaO kg/t
1	74	0.25	No	136.3	7.0	94.9	3.5	0.8
2	44	0.25	No	132.3	6.0	95.5	4.2	0.8
3	37	0.25	No	130.4	4.6	96.5	5.9	0.8
5	37	0.20	No	131.7	7.2	94.5	5.0	1.2
6	37	0.50	No	133.0	4.8	96.4	8.1	1.2
4	37	0.25	Yes	132.2	5.0	96.2	8.1	0.8

SGS TEST DATA

SGS completed preliminary tests on four samples from the Colquipucro mineralization in 2012. A summary of the analytical information for the head samples is shown in Table 13-4.

TABLE 13-4 SGS METALLURGICAL SAMPLE HEAD ANALYSES
Tinka Resources Limited – Ayawilca Property

Sample	Ag, g/t	Cu, %	Fe, %	As, ppm	Pb, %	Sb, ppm	S_T,%
Batch 1	27.3	0.0022	2.10	30	0.1983	<5	1.52
Batch 2	67.3	0.0030	1.78	140	0.1622	42	0.06
Batch 3	83.7	0.0031	3.67	204	0.1084	76	0.06
Batch 4	115.4	0.0019	2.09	44	0.1925	22	0.79

The tests were completed using samples that were crushed to 100% passing 2 mm using three different cyanide concentrations (i.e., 0.1 g/L NaCN, 0.5 g/L NaCN, and 1.0 g/L NaCN).

The results of the tests are summarized in Table 13-5.

TABLE 13-5 SGS BOTTLE ROLL TEST RESULTS
Tinka Resources Limited – Ayawilca Property

Sample	NaCN g/L	Calc Head Ag g/t	Extraction Ag, %	NaCN kg/t	$Ca(OH)_2$ kg/t
Batch 1 T-1	0.1	27.6	31.7	0.55	8.36
Batch 1 T-2	0.5	29.4	45.9	3.48	8.37
Batch 1 T-3	1.0	28.2	50.6	6.05	8.15
Batch 2 T-1	0.1	67.0	56.2	0.46	1.48
Batch 2 T-2	0.5	65.8	70.9	1.77	0.78
Batch 2 T-3	1.0	69.7	72.7	3.19	0.23
Batch 3 T-1	0.1	87.6	55.8	0.37	0.92
Batch 3 T-2	0.5	93.5	73.4	1.69	0.55
Batch 3 T-3	1.0	90.8	77.1	3.12	0.04
Batch 4 T-1	0.1	101.1	70.4	0.46	1.72

Sample	NaCN g/L	Calc Head Ag g/t	Extraction Ag, %	NaCN kg/t	$Ca(OH)_2$ kg/t
Batch 4 T-2	0.5	115.2	80.9	1.98	1.12
Batch 4 T-3	1.0	111.6	83.7	3.94	0.56

In addition to the bottle roll tests, SGS completed some column leach tests in 15 cm diameter columns for three days. A summary of the calculated head grade and the silver extraction is provided in Table 13-6.

TABLE 13-6 COLUMN LEACH TEST RESULTS
Tinka Resources Limited – Ayawilca Property

Sample	Head, Ag g/t	Extraction Ag, %
Batch 1	27.30	12.84
Batch 2	67.34	54.12
Batch 3	83.68	60.07
Batch 4	115.35	71.3

The data confirms that the extraction appears to be dependent upon the head grade of the sample for both the bottle roll tests and the column leach tests. The SGS data showed a stronger correlation between the NaCN concentration and the silver extraction.

Silver leach bottle-roll tests were completed on quarter core samples from 10 composite oxide Colquipucro samples during the December 2015 at SGS Lima. Four different size fractions were used: 100% <25 mm, 100% <6 mm, 100% <2 mm, and P_{80} <75 µm (i.e., 40 test samples in total). Head grades of the 10 samples varied between 20 g/t Ag and 230 g/t Ag. The concentration of cyanide used in the bottle rolls was a constant 1 g/L. Cyanidation time was 10 days for the two coarser fractions, and three days for the two finer fractions. Average silver recoveries for the 10 samples for each size fraction were: 43%, 56%, 69%, and 80% respectively. Recoveries for silver were improved in the higher grade samples. Gold was found to be negligible in the samples.

14 MINERAL RESOURCE ESTIMATE

RPA estimated Mineral Resources for the Ayawilca deposit using the drill results available to October 10, 2017 (Tables 14-1 to 14-3). There has been no drilling at the Colquipucro deposit since the previous Mineral Resource estimate completed in 2015 and therefore that Mineral Resource estimate remains current. No Mineral Reserves have yet been estimated on the Property.

Mineral Resources at Ayawilca are reported on the basis of a possible underground mining scenario using a US$55/t NSR cut-off value for both the Zinc Zone and Tin Zone. Mineral Resources within the Zinc Zone are hosted in a brecciated carbonate sequence located beneath the sandstone unit that hosts the Colquipucro deposit, located 1.5 km to the north. The Zinc Zone is made up of multiple, gently dipping lenses, or mantos, in the Central and East Ayawilca areas and as massive replacement bodies within structural zones in the West and South Ayawilca areas. The Tin Zone mineralization is primarily disseminated cassiterite and chalcopyrite in massive to semi-massive pyrrhotite lenses at the contact between the Pucará Group and underlying phyllite of the Devonian Excelsior Group, and can also occur as quartz sulphide stockwork veinlets hosted within the phyllite. The Tin Zone resources lie spatially beneath the Zinc Zone and typically do not overlap.

TABLE 14-1 MINERAL RESOURCES AT AYAWILCA ZINC ZONE AS OF OCTOBER 10, 2017
Tinka Resources Limited – Ayawilca Property

Class/Area	Tonnage (Mt)	ZnEq (%)	Zn (%)	Pb (%)	In (g/t)	Ag (g/t)	Zn (Mlb)	Pb (Mlb)	In (t)	Ag (Moz)
Inferred										
West	9.0	7.2	6.1	0.2	64	14	1,206	37	577	4.0
Central	13.0	5.7	4.7	0.3	54	13	1,338	77	704	5.4
East	7.5	6.2	5.1	0.2	69	13	846	34	519	3.1
South	13.3	9.5	7.6	0.2	118	25	2,228	61	1,561	10.6
Total Inferred	**42.7**	**7.3**	**6.0**	**0.2**	**79**	**17**	**5,617**	**209**	**3,361**	**23.1**

Notes:
1. CIM (2014) definitions were followed for Mineral Resources.
2. Mineral Resources are reported above a cut-off NSR value of US$55 per tonne.
3. The NSR value was based on estimated metallurgical recoveries, assumed metal prices and smelter terms, which include payable factors, treatment charges, penalties, and refining charges. Metal price assumptions were: US$1.15/lb Zn, US$300/kg In, US$18/oz Ag, and US$1.10/lb Pb. Metal recovery assumptions were: 90% Zn, 75% In, 60% Ag, and 75% Pb. The NSR value for each block was

calculated using the following NSR factors: US$15.34 per % Zn, US$6.15 per % Pb, US$0.18 per gram In, and US$0.27 per gram Ag.
4. The NSR value was calculated using the following formula:
NSR = [Zn(%)*US$15.34+Pb(%)*US$6.15+In(g/t)*US$0.18+Ag(g/t)*US$0.27]
5. The ZnEq value was calculated using the following formula: ZnEq = NSR/US$15.34
6. Numbers may not add due to rounding.

TABLE 14-2 MINERAL RESOURCES AT AYAWILCA TIN ZONE AS OF OCTOBER 10, 2017

Tinka Resources Limited – Ayawilca Property

Class	Tonnage (Mt)	SnEq (%)	Sn (%)	Cu (%)	Ag (g/t)	Sn (Mlb)	Cu (Mlb)	Ag (Moz)
Inferred	10.5	0.70	0.63	0.23	12	145	53	4.2

Notes:
1. CIM (2014) definitions were followed for Mineral Resources.
2. Mineral Resources are reported above a cut-off grade of US$55 per tonne NSR value.
3. The NSR grade was based on estimated metallurgical recoveries, assumed metal prices and smelter terms, which include payable factors, treatment charges, penalties, and refining charges. Metal price assumptions were: US$9.50/lb Sn, US$3/lb Cu, and US$18/oz Ag. Metal recovery assumptions were: 86% Sn, 75% Cu, and 60% Ag. The NSR value for each block was calculated using the following NSR factors: US$164.53 per % Sn, US$39.95 per % Cu, and US$0.27 per gram Ag.
4. The NSR value was calculated using the following formula:
NSR = [Sn(%)*US$164.53+Cu(%)*US$39.95+Ag(g/t) *US$0.27].
5. The SnEq value was calculated using the following formula:
SnEq = NSR/US$164.53
6. Numbers may not add due to rounding.

Mineral Resources at Colquipucro are reported within a preliminary pit shell generated in Whittle software at a reporting cut-off grade of 15 g/t Ag. Mineral Resources are contained within ten north dipping high grade lenses, a gently dipping basal zone, and a low-grade halo that encompasses the high-grade lenses. Overall, the deposit is 550 m in the north-south direction by 380 m in the east-west direction by 75 m thick. The deposit is located on a topographic high and ranges between 4,160 m and 4,360 m elevations.

TABLE 14-3 MINERAL RESOURCES AT COLQUIPUCRO AS OF MAY 25, 2016

Tinka Resources Limited – Ayawilca Property

Class/Zone	Tonnage (Mt)	Ag (g/t)	Ag (Moz)
Indicated			
High Grade Lenses	2.9	112	10.4
Low Grade Halo	4.5	27	3.9
Total Indicated	**7.4**	**60**	**14.3**
Inferred			
High Grade Lenses	2.2	105	7.5
Low Grade Halo	6.2	28	5.7
Total Inferred	**8.5**	**48**	**13.2**

Notes:
1. CIM (2014) definitions were followed for Mineral Resources.
2. Mineral Resources are reported within a preliminary pit-shell and above a reporting cut-off grade of 15 g/t Ag for the Low Grade Halo and 60 g/t Ag for the High Grade Lenses.
3. The cut-off grade is based on a price of US$24/oz Ag.
4. Numbers may not add due to rounding.

RPA is not aware of any environmental, permitting, legal, title, taxation, socio-political, marketing, and other relevant factors that would affect the Ayawilca and Colquipucro Mineral Resource estimates.

AYAWILCA MINERAL RESOURCE ESTIMATE

The Ayawilca drill database includes 116 drill holes totalling 41,828.7 m. A set of cross-sections and level plans were interpreted to construct three-dimensional wireframe models at an approximate NSR cut-off value of $50/t for both the Zinc Zone and Tin Zone. Prior to compositing to two metre lengths, high Zn, Sn, In, and Ag values were cut to 25%, 4%, 500 g/t, and 100 g/t, respectively. Block model grades within the wireframe models were interpolated by inverse distance cubed (ID^3). Despite lead grades being low, it is assumed that lead and silver will be recovered in a lead concentrate. Density was estimated to be 3.6 t/m^3 for the Zinc Zone and 3.9 t/m^3 for the Tin Zone based on density measurements from core samples. All Mineral Resources were assigned to the Inferred category due to the widely spaced drilling. No Mineral Reserves have yet been estimated at Ayawilca.

RESOURCE DATABASE

RPA received header, survey, assay, alteration, and geology data from Tinka in Microsoft Excel format. Data was amalgamated and parsed as required, converted to ASCII, and imported into Dassault Systèmes GEOVIA GEMS Version 6.8 (GEMS) for Mineral Resource modelling. The latest drill hole included in the database and resource estimate is A17-98, however, several other holes had been drilled but assay results were not received at the time of resource modeling. Listed below is a summary of records for all drilling on the Ayawilca deposit:

- Holes: 116
- Surveys: 9,911
- Assays: 16,364

- Composites 1,458
- Lithology: 10,094
- Full width composites: 198
- Density measurements: 188

Section 12, Data Verification, describes the verification steps made by RPA. In summary, no discrepancies were identified and RPA is of the opinion that the drill hole database is valid and suitable to estimate Mineral Resources for the Ayawilca deposit.

GEOLOGICAL INTERPRETATION AND 3D SOLIDS

Wireframe models of mineralized zones were used to constrain the block grade interpolation process. A set of west looking vertical sections spaced 50 m apart and level plans were used to make an on-screen interpretation of the mineralization at a nominal cut-off grade of US$50 NSR for both the Zinc Zone and Tin Zone. A minimum thickness of three metres was applied. Wireframe models were built using 3D wobbly polylines on each cross-section. Occasionally, lower grade intersections were included to facilitate continuity. At model extremities, polylines were extrapolated up to 50 m beyond the last drill hole section. Polylines were joined together in 3D using tie lines and the continuity was checked using the longitudinal section and level plans.

RPA built 23 domains in five main areas (Figure 14-1 and Table 14-4): Central, South, West and East areas, collectively referred to as the Zinc Zone elsewhere in this report, and the Tin Zone. A description of each modelled domain follows:

- The Central Area is the largest area at Ayawilca. It is made up of seven stacked domains, two of which have two pieces, ranging from 160 m to 350 m below surface. It extends 870 m east-west and 530 m north-south. The thickness of individual domains ranges from 4 m to 28 m and averages 11 m. All domains dip shallowly to the southeast. The Central Area is intersected by 20 drill holes.

- The South Area is currently the highest grade zinc area and second largest at Ayawilca. It is made of five stacked domains ranging from 50 m to 230 m below surface, extending for 550 m in the northeast-southwest direction and 250 m in the northwest-southeast direction. The thickness of individual domains ranges from 3 m to 52 m and averages 19 m. All domains dip shallowly to the northeast. The South Area is intersected by 17 drill holes.

- The West Area is the second highest grade zinc area at Ayawilca. It is made up of four stacked domains ranging from 120 m to 350 m below surface, extending 300 m east-west and 510 m north-south. The thickness of individual domains ranges from 4 m to

84 m and averages 23 m. All domains dip shallowly to the southeast. The West Area is intersected by 17 drill holes.

- The East Area is made up of two stacked domains ranging from 250 m to 380 m below surface, extending 280 m east-west and 320 m north-south. The thickness of individual domains ranges from 8 m to 40 m and averages 22 m. All domains dip shallowly to the south and southeast. The East Area is intersected by only five drill holes on two sections spaced 200 m apart.

- The main Tin Zone is located beneath the Central and South Area at the unconformity with the Devonian Excelsior Group. The other smaller domains are interlayered with the South Zinc domains. There are five individual zones ranging from 70 m to 270 m below surface. The main area extends 750 m east-west and 600 m north-south shallowly dipping to the northeast. The thickness of individual domains ranges from 3 m to 50 m and averages 14 m. The Tin Zone is intersected by 23 drill holes.

TABLE 14-4 DOMAIN DIMENSIONS
Tinka Resources Limited – Ayawilca Property

Domain	Length (m)	Width (m)	Avg. Thickness (m)	Min. Thickness (m)	Max Thickness (m)	No. Holes
Central1	200	170	9.5	4.0	6.2	5
Central2	580	480	12.6	4.0	28.0	9
Central3	575	500	11.9	4.0	28.0	15
Central4	601	170	9.7	6.0	14.7	7
Central5	150	77	7.4	4.0	10.8	2
Central6	510	300	11.1	4.0	21.4	8
Central8	50	30	15.3	6.0	24.5	1
East1	300	305	23.2	7.8	40.1	5
East2	300	175	19.5	7.7	36.9	3
Tin1	760	600	13.8	3.0	50.5	18
Tin5	380	150	10.1	7.8	13.5	3
Tin6	120	130	13.0	10.0	16.0	2
Tin7	173	115	18.0	11.0	24.9	4
Tin8	150	60	13.9	11.0	16.7	2
West1	145	140	13.1	4.0	53.7	7
West2	220	185	15.0	5.3	36.8	9
West3	520	290	30.7	4.9	84.0	17
West4	90	80	29.0	27.2	30.8	2
SouthA	910	270	21.9	4.3	51.9	21
SouthA2	123	40	4.9	2.2	7.6	2
SouthB	260	170	27.8	5.3	42.7	8
SouthC	130	130	8.4	4.4	13.4	5
SouthD	115	150	12.7	4.0	20.25	5

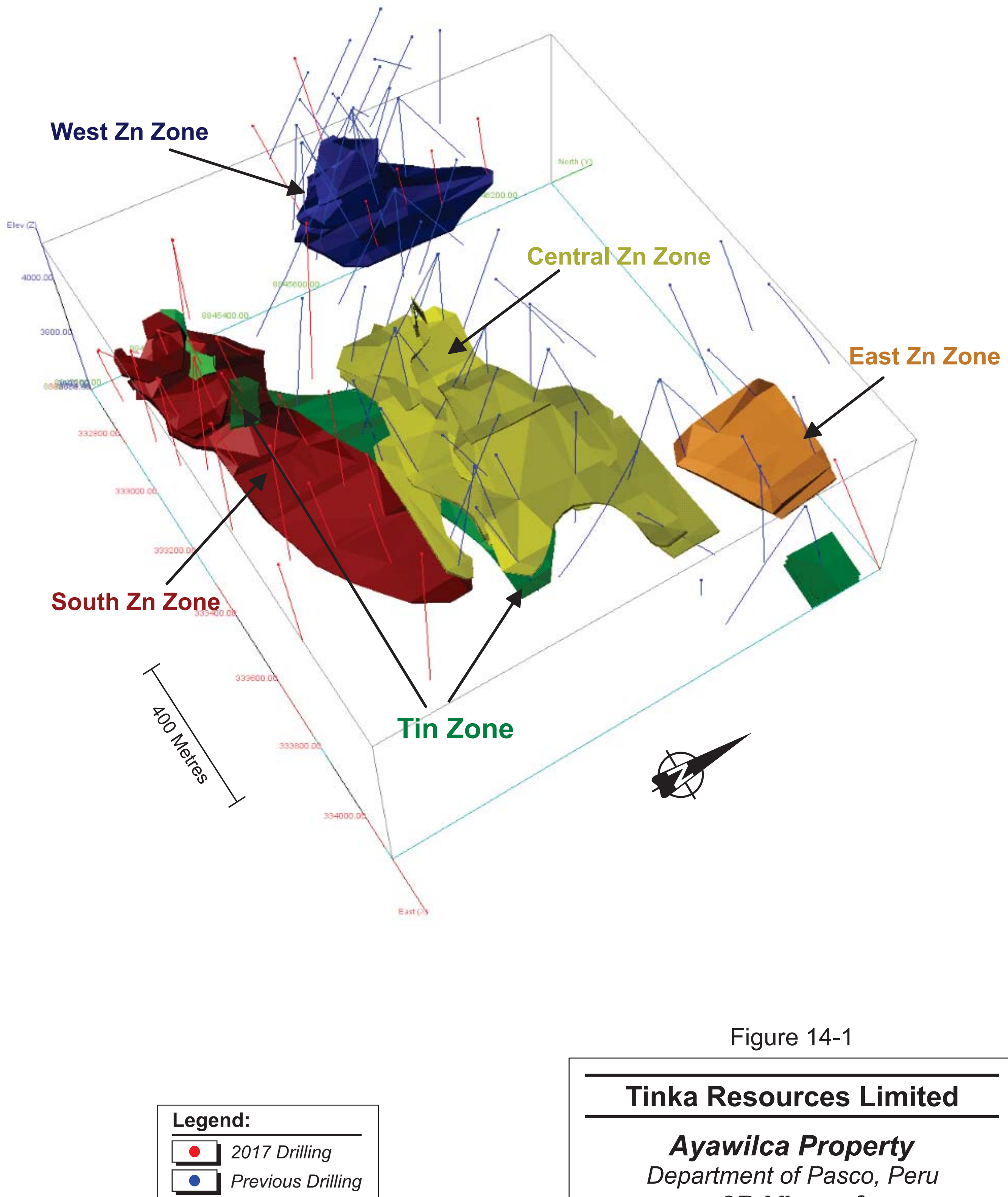


Figure 14-1

Tinka Resources Limited

Ayawilca Property

Department of Pasco, Peru

3D View of Alywilca Wireframe Models

December 2017

Source: RPA, 2017.

STATISTICAL ANALYSIS

Assay values located inside the wireframe models were tagged with domain identifiers and exported for statistical analysis. Results were used to help verify the modelling process. Statistics by zone are summarized in Table 14-5.

TABLE 14-5 DESCRIPTIVE STATISTICS OF RESOURCE ASSAY VALUES - AYAWILCA

Tinka Resources Limited – Ayawilca Property

	Zn (%)	Pb (%)	In (ppm)	Ag (g/t)	Sn (%)	Cu (%)
Central						
Count	316	316	316	316	n/a	n/a
Min	0.02	0.00	0.00	0.10	n/a	n/a
Max	24.60	4.07	498.20	109.00	n/a	n/a
Mean	4.53	0.25	59.85	11.02	n/a	n/a
Variance	11.22	0.47	6,583.00	228.20	n/a	n/a
St Dev	3.35	0.68	81.13	15.11	n/a	n/a
CV	0.74	2.71	1.36	1.37	n/a	n/a
East						
Count	440	440	440	440	n/a	n/a
Min	0.02	0.00	0.00	0.10	n/a	n/a
Max	39.39	6.15	1,400.00	222.00	n/a	n/a
Mean	5.66	0.21	61.20	14.52	n/a	n/a
Variance	34.19	0.48	18,743.00	544.70	n/a	n/a
St Dev	5.85	0.69	136.90	23.34	n/a	n/a
CV	1.03	3.26	2.24	1.61	n/a	n/a
West						
Count	105	105	105	105	n/a	n/a
Min	0.15	0.00	0.17	0.10	n/a	n/a
Max	19.23	5.74	531.00	209.00	n/a	n/a
Mean	4.95	0.33	52.09	16.76	n/a	n/a
Variance	10.67	0.56	9,976.00	755.00	n/a	n/a
St Dev	3.27	0.75	99.88	27.48	n/a	n/a
CV	0.66	2.26	1.92	1.64	n/a	n/a
South						
Count	424	424	424	424	n/a	n/a
Min	0.01	0.00	0.01	0.19	n/a	n/a
Max	46.28	17.05	2,070.00	18,174.00	n/a	n/a
Mean	8.72	0.28	155.23	79.96	n/a	n/a
Variance	92.71	1.12	83,577.00	803,873.00	n/a	n/a
St Dev	9.63	1.06	289.10	896.59	n/a	n/a
CV	1.10	3.81	1.86	11.21	n/a	n/a
Tin						
Count	n/a	n/a	n/a	233	233	233
Min	n/a	n/a	n/a	0.12	0.01	0.00

	Zn (%)	Pb (%)	In (ppm)	Ag (g/t)	Sn (%)	Cu (%)
Max	n/a	n/a	n/a	105.00	9.08	2.07
Mean	n/a	n/a	n/a	11.26	0.77	0.21
Variance	n/a	n/a	n/a	216.60	1.23	0.08
St Dev	n/a	n/a	n/a	14.72	1.11	0.28
CV	n/a	n/a	n/a	1.31	1.43	1.35

CUTTING HIGH GRADE VALUES

Where the assay distribution is skewed positively or approaches log-normal, erratic high grade assay values can have a disproportionate effect on the average grade of a deposit. One method of treating these outliers in order to reduce their influence on the average grade is to cut or cap them at a specific grade level. In the absence of production data to calibrate the cutting level, inspection of the assay distribution can be used to estimate a "first pass" cutting level.

Review of the resource assay histograms within the wireframe domains (Figures 14-2 to 14-4) and a visual inspection of high-grade values on vertical sections suggest that cutting of erratic values to 25% Zn, 4% Sn, 500 g/t In, and 100 g/t Ag is warranted and appropriate.

FIGURE 14-2 HISTOGRAM OF ZINC RESOURCE ASSAYS

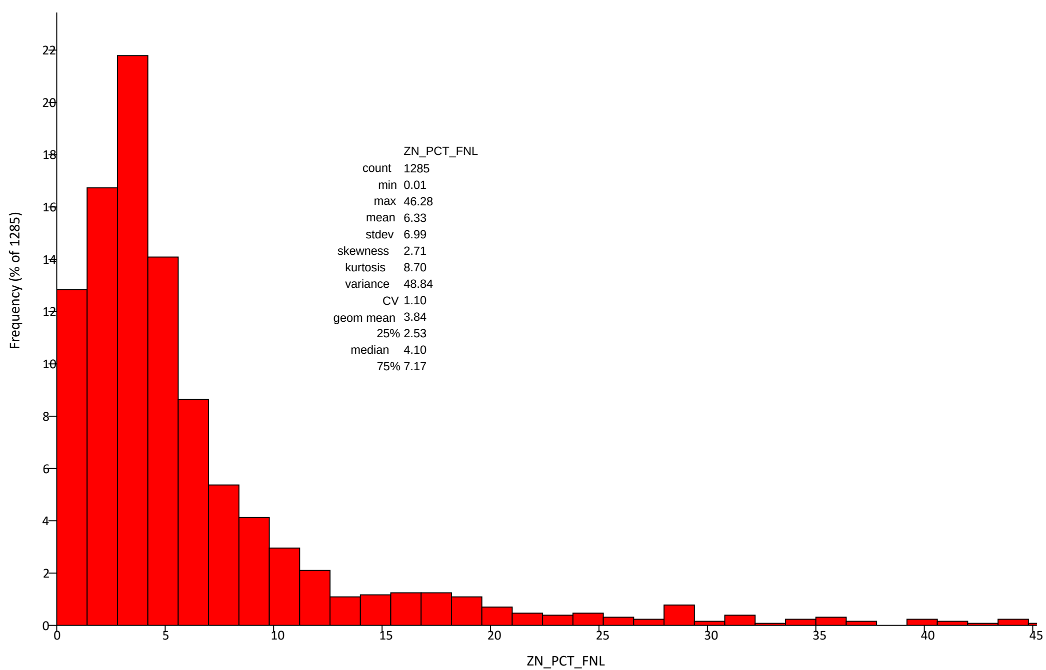


FIGURE 14-3 HISTOGRAM OF INDIUM RESOURCE ASSAYS

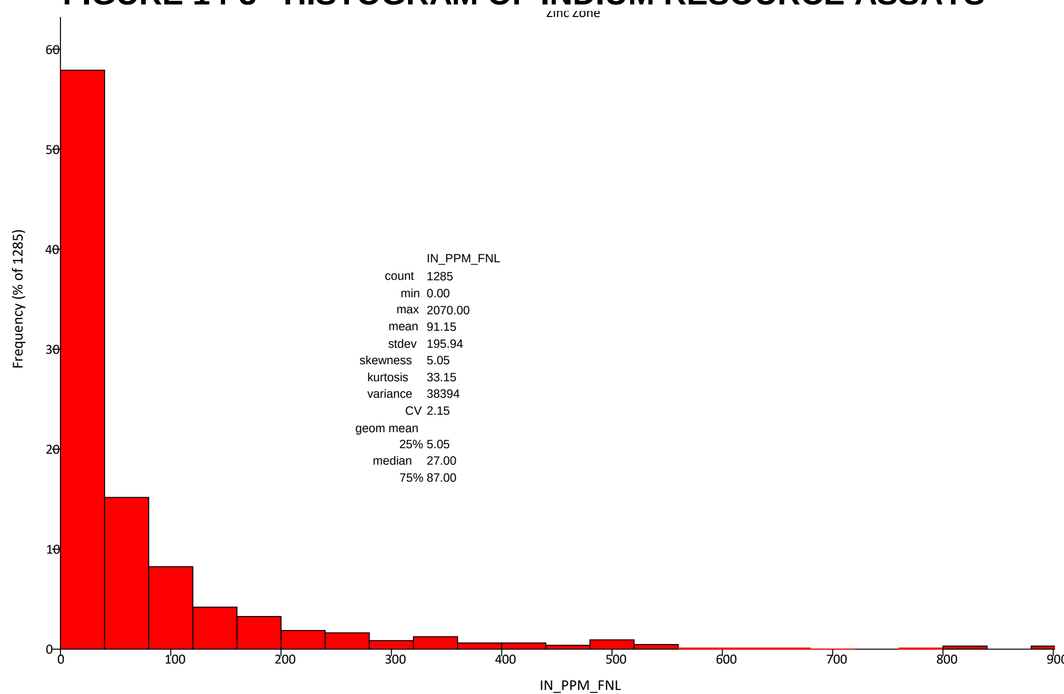
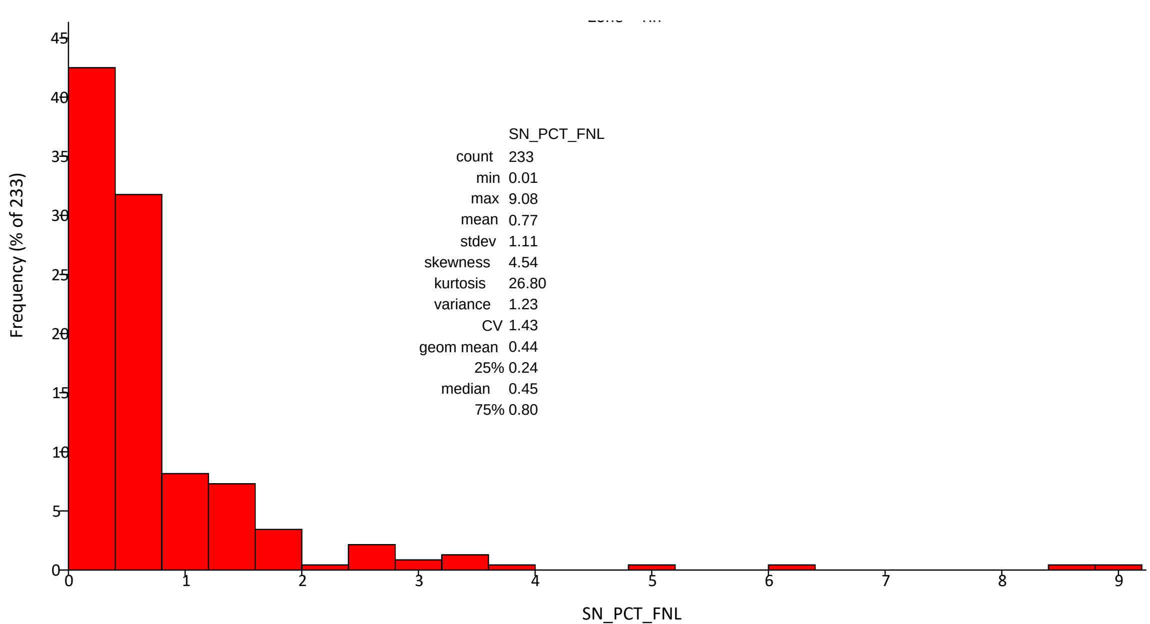


FIGURE 14-4 HISTOGRAM OF TIN RESOURCE ASSAYS



Basic statistics of cut resource assays by zone are summarized in Table 14-6.

TABLE 14-6 DESCRIPTIVE STATISTICS OF CUT RESOURCE ASSAY VALUES - AYAWILCA

Tinka Resources Limited – Ayawilca Property

	Zn (%)	Pb (%)	In (ppm)	Ag (g/t)	Sn (%)	Cu (%)
Central						
Count	316	316	316	316	n/a	n/a
Min	0.02	0.00	0.00	0.10	n/a	n/a
Max	24.60	4.07	498.20	100.00	n/a	n/a
Mean	4.53	0.25	59.85	10.97	n/a	n/a
Variance	11.22	0.47	6,583.00	219.40	n/a	n/a
St Dev	3.35	0.68	81.13	14.81	n/a	n/a
CV	0.74	2.71	1.36	1.35	n/a	n/a
East						
Count	440	440	440	440	n/a	n/a
Min	0.02	0.00	0.00	0.10	n/a	n/a
Max	25.00	6.15	500.00	100.00	n/a	n/a
Mean	5.55	0.21	55.41	13.76	n/a	n/a
Variance	29.08	0.48	10,606.00	352.90	n/a	n/a
St Dev	5.39	0.69	102.99	18.79	n/a	n/a
CV	0.97	3.26	1.86	1.37	n/a	n/a
West						
Count	105	105	105	105	n/a	n/a
Min	0.15	0.00	0.17	0.10	n/a	n/a
Max	19.23	5.74	500.00	100.00	n/a	n/a
Mean	4.95	0.33	51.79	15.72	n/a	n/a
Variance	10.67	0.56	9,699.00	465.20	n/a	n/a
St Dev	3.27	0.75	98.49	21.57	n/a	n/a
CV	0.66	2.26	1.90	1.37	n/a	n/a
South						
Count	424	424	424	424	n/a	n/a
Min	0.01	0.00	0.01	0.19	n/a	n/a
Max	25.00	17.05	500.00	100.00	n/a	n/a
Mean	7.92	0.28	117.51	23.24	n/a	n/a
Variance	55.38	1.12	22,901.00	664.40	n/a	n/a
St Dev	7.44	1.06	151.33	25.78	n/a	n/a
CV	0.94	3.81	1.29	1.11	n/a	n/a
Tin Zone						
Count	n/a	n/a	n/a	233	233	233
Min	n/a	n/a	n/a	0.12	0.01	0.00
Max	n/a	n/a	n/a	100.00	4.00	2.07
Mean	n/a	n/a	n/a	11.24	0.72	0.21
Variance	n/a	n/a	n/a	212.70	0.64	0.08
St Dev	n/a	n/a	n/a	14.58	0.80	0.28
CV	n/a	n/a	n/a	1.30	1.12	1.35

COMPOSITING

Sample lengths range from 0.5 m to 2.5 m within the resource domain wireframe models with 70% taken at two metres. Given these distributions, and considering the width of the mineralization, RPA chose to composite to two metre lengths. Assays within the wireframe domains were composited using the downhole compositing method, which starts at the first mineralized wireframe boundary from the collar and resets at each new wireframe boundary. Composites less than 0.5 m, located at the bottom of the mineralized intercept, were removed from the database. Table 14-7 list descriptive statistics of the composites by zone.

TABLE 14-7 DESCRIPTIVE STATISTICS OF COMPOSITE VALUES - AYAWILCA
Tinka Resources Limited – Ayawilca Property

	Zn (%)	Pb (%)	In (ppm)	Ag (g/t)	Sn (%)	Cu (%)
Central						
Count	272	272	272	272	n/a	n/a
Min	0.02	0.00	0.00	0.10	n/a	n/a
Max	18.11	3.90	498.16	97.60	n/a	n/a
Mean	4.46	0.26	57.90	10.96	n/a	n/a
Variance	7.95	0.45	5438.00	209.70	n/a	n/a
St Dev	2.82	0.67	73.74	14.48	n/a	n/a
CV	0.63	2.62	1.27	1.32	n/a	n/a
East						
Count	88	88	88	88	n/a	n/a
Min	0.89	0.00	0.17	0.10	n/a	n/a
Max	12.56	3.72	499.97	83.66	n/a	n/a
Mean	4.92	0.27	52.58	14.17	n/a	n/a
Variance	6.76	0.30	9454.00	338.70	n/a	n/a
St Dev	2.60	0.55	97.23	18.40	n/a	n/a
CV	0.53	2.04	1.85	1.30	n/a	n/a
West						
Count	408	408	408	408	n/a	n/a
Min	0.00	0.00	0.00	0.00	n/a	n/a
Max	25.00	5.55	500.00	100.00	n/a	n/a
Mean	5.31	0.19	57.45	13.34	n/a	n/a
Variance	21.77	0.34	10778.00	296.10	n/a	n/a
St Dev	4.67	0.59	103.82	17.21	n/a	n/a
CV	0.88	3.02	1.81	1.29	n/a	n/a
South						
Count	347	347	347	347	n/a	n/a
Min	0.00	0.00	0.00	0.00	n/a	n/a
Max	25.00	7.24	500.00	100.00	n/a	n/a
Mean	7.39	0.25	109.08	22.07	n/a	n/a
Variance	40.24	0.49	18078.00	526.80	n/a	n/a

	Zn (%)	Pb (%)	In (ppm)	Ag (g/t)	Sn (%)	Cu (%)
St Dev	6.34	0.70	134.45	22.95	n/a	n/a
CV	0.86	2.82	1.23	1.04	n/a	n/a
Tin						
Count	n/a	n/a	n/a	206	206	206
Min	n/a	n/a	n/a	0.41	0.01	0.00
Max	n/a	n/a	n/a	99.99	4.00	2.07
Mean	n/a	n/a	n/a	11.34	0.67	0.22
Variance	n/a	n/a	n/a	196.80	0.43	0.08
St Dev	n/a	n/a	n/a	14.03	0.65	0.28
CV	n/a	n/a	n/a	1.24	0.97	1.30

INTERPOLATION PARAMETERS

Grades were interpolated by ID^3 with a minimum of four to a maximum of six composites per block estimate for first pass, and a minimum of one to a maximum of five composites per block estimate in the second pass. A maximum of three composites per drill hole was applied during the first pass to inform interpolated blocks by at least two boreholes. The search ellipse varied slightly by domain (Table 14-8). Hard boundaries were used to limit the use of composites between wireframe boundaries. Figures 14-5 to 14-7 illustrate the results. Zinc, indium, silver, and lead were interpolated for the Zinc Zone. Tin, copper, and silver were interpolated for the Tin Zone.

TABLE 14-8 BLOCK ESTIMATE SEARCH STRATEGY - AYAWILCA
Tinka Resources Limited – Ayawilca Property

Domain	Z (º)	Y (º)	Z (º)	Long (m)	Inter. (m)	Short (m)
WEST1	-45	15	00	120	120	30
WEST2	-45	15	00	120	120	30
WEST3	00	00	00	140	140	70
WEST4	-45	15	00	120	120	30
CENTRAL1	00	00	00	120	120	60
CENTRAL2	00	10	00	140	140	60
CENTRAL3	00	15	00	140	140	60
CENTRAL4	00	15	00	140	140	60
CENTRAL5	00	10	00	140	140	60
CENTRAL6	00	10	00	140	140	60
CENTRAL8	00	00	00	80	45	80
EAST1	-70	15	20	140	140	70
EAST2	-30	20	15	140	140	70
SOUTHA	-30	20	15	140	140	70
SOUTHA2	00	00	00	120	120	60
SOUTHB	-30	30	15	140	140	70
SOUTHC	-30	30	15	140	140	70
SOUTHS	00	00	00	140	140	70
TIN1	00	10	00	120	120	60
TIN5	00	00	00	140	140	70
TIN6	-30	20	15	140	140	70
TIN7	-30	20	15	140	140	70
TIN8	00	-15	00	120	120	60

* Note: GEMS ZYZ rotation nomenclature is used above. Positive rotation around the Y axis is from Z toward X, and around the Z axis is from X toward Y.

The influence of higher grade composites for some metals within some zones was spatially restricted. For the Tin Zone, composites greater than 2% Sn were restricted to 50 m by 50 m by 20 m and copper composites greater than 0.75% were restricted to 30 m by 30 m by 15 m. Lead composites greater than 2% Pb were also restricted to 30 m by 30 m by 15 m within the Zinc Zone.

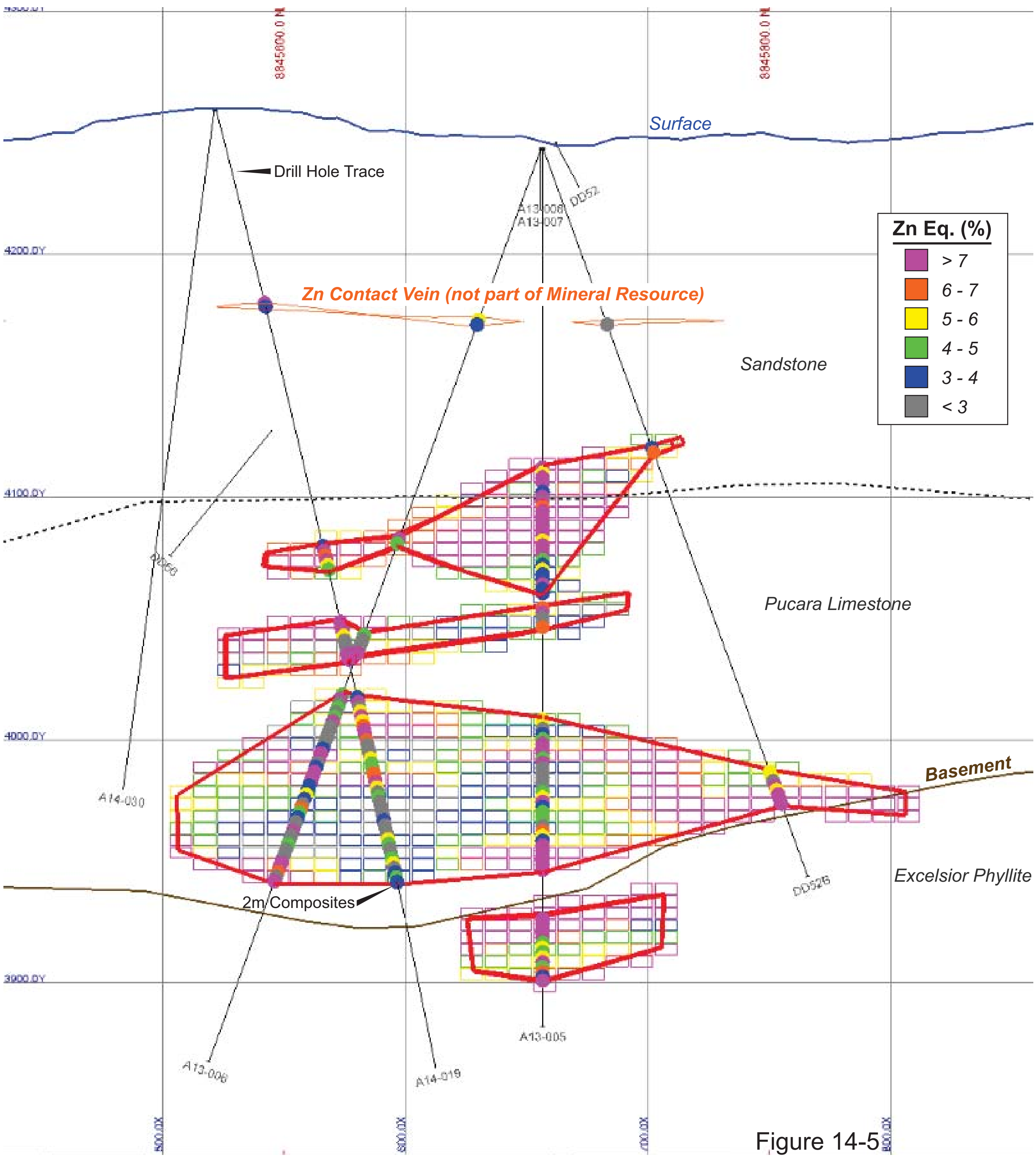


Figure 14-5

Tinka Resources Limited

Ayawilca Property

Department of Pasco, Peru

West Ayawilca Deposit

Vertical Section 332725E

Zn Eq. Block Grades and Composites

December 2017

Source: RPA, 2017.

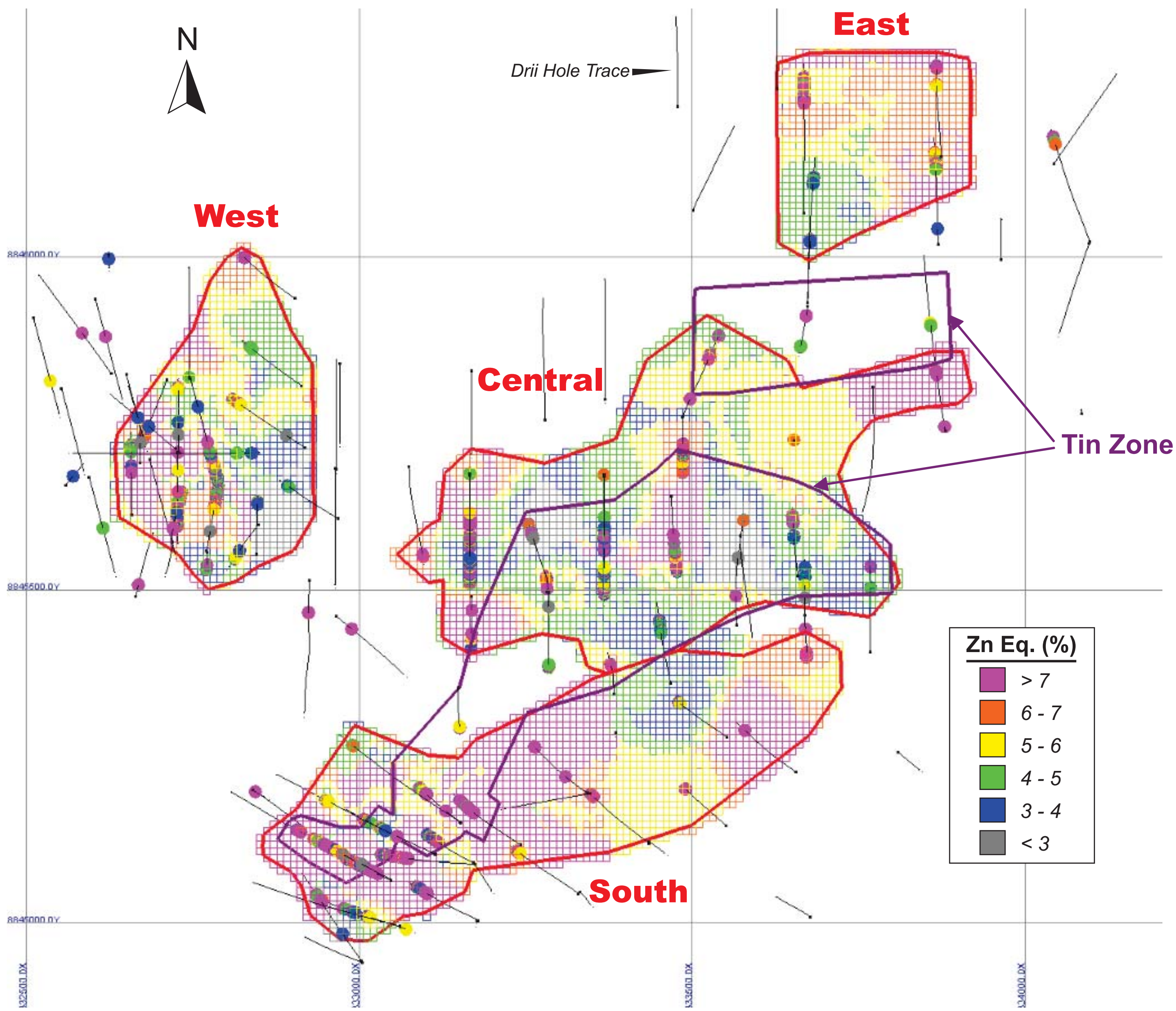


Figure 14-6

Tinka Resources Limited

Ayawilca Property

Department of Pasco, Peru

Ayawilca Deposit

Level Plan Showing Zn Zones

December 2017

Source: RPA, 2017.

Figure 14-7

Tinka Resources Limited

Ayawilca Property

Department of Pasco, Peru

Ayawilca Deposit

Level Plan Showing Tin Zones

December 2017

Source: RPA, 2017.

DENSITY

Seventy-four measurements are located within the wireframe models representing the Zinc Zone and eleven measurements are located within the Tin Zone. RPA used the average of these measurements, 3.6 t/m^3 and 3.9 t/m^3, to convert resource volumes to tonnage for the Zinc Zone and Tin Zone, respectively.

BLOCK MODEL

The GEMS block model is made up of 190 columns, 160 rows, and 150 levels. The model origin (lower-left corner at highest elevation) is at coordinates 332,356.3 mE, 8,844,802.4 mN and 4,281 m elevation. Each block is 10 m wide by 10 m long by 5 m high. A partial block model is used to manage blocks partially filled by mineralized rock types, including blocks along the edges of the deposit. A partial model has a parallel block model containing the percentage of mineralized rock types contained within each block. The block model contains the following information:

- domain identifiers with rock type;
- estimated grades of zinc, indium, silver, and lead within the zinc dominated domains, and tin, copper and silver within the tin domains;
- NSR, ZnEq, and SnEq estimates calculated from block grades and related economic and metallurgical assumptions;
- the percentage volume of each block within the mineralization wireframe models;
- the distance to the closest composite used to interpolate the block grade.

CUT-OFF GRADES

NSR values, ZnEq, and SnEq grades were developed by RPA for the purposes of geological interpretation and resource reporting. NSR is the estimated value per tonne of mineralized material after allowance for metallurgical recovery and consideration of smelter terms, including payables, treatment charges, refining charges, price participation, penalties, smelter losses, transportation, and sales charges. These assumptions are dependent on the processing scenario, and will be sensitive to changes in inputs from further metallurgical test work. Key assumptions are listed below. Assumed recoveries are based on testwork and experience from other operations.

- Metal prices: US$1.15 per pound of zinc
  US$300 per kilogram indium

US$18 per ounce silver
US$1.10 per pound lead
US$9.50 per pound tin
US$3.00 per pound copper

- Recoveries:

90% zinc
75% indium
60% silver
75% lead
86% tin
75% copper

The NSR factors represent revenue (US$) per metal unit (per % Zn, for example), and are independent of resource grade. RPA used the following factors to calculate NSR:

Zn:	US$15.34 per %
In:	US $0.18 per g/t
Ag:	US $0.27 per g/t
Pb:	US $6.15 per %
Sn:	US $164.53 per %
Cu:	US $39.95 per %

The following formulas were used to calculate the ZnEq and SnEq for reporting purposes:

ZnEq(%) = [Zn(%)*US$15.34+Pb(%)*US$6.15+In(g/t)*US$0.18+Ag(g/t)*US$0.27]/ US$15.34

SnEq(%) = [Sn(%)*US$164.53+Cu(%)*US$39.95+Ag(g/t)*US$0.27]/ US$164.53

For the purposes of developing the cut-off grades, a total unit operating cost of US$55 per tonne milled was estimated, which includes mining, processing, and general and administrative (G&A) expenses. The US$55 NSR cut-off value is approximately equivalent to a 3.6% ZnEq cut-off within the Zinc Zone and a 0.33% SnEq cut-off within the Tin Zone.

Metal prices used for reserves are based on consensus, long term forecasts from banks, financial institutions, and other sources. For resources, metal prices used are slightly higher than those for reserves.

CLASSIFICATION

Definitions for resource categories used in this report are consistent with those defined by CIM (2014) and incorporated by reference into NI 43-101. In the CIM classification, a Mineral

Resource is defined as "a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction". Mineral Resources are classified into Measured, Indicated, and Inferred categories. A Mineral Reserve is defined as the "economically mineable part of a Measured and/or Indicated Mineral Resource" demonstrated by studies at Pre-Feasibility or Feasibility level as appropriate. Mineral Reserves are classified into Proven and Probable categories. No Mineral Reserves have been estimated for the Ayawilca deposit.

Mineral Resources at Ayawilca were classified entirely as Inferred based on drill hole spacing and the apparent continuity of mineralization. Drill sections were spaced 100 m to 200 m along strike with intercepts on each section commonly ranging from 50 m up to 100 m. The limits of the Mineral Resource remain undefined by drilling in several directions.

MINERAL RESOURCE REPORTING

Mineral Resources at Ayawilca are reported on the basis of a possible underground mining operation cut-off grades. Approximately 6.7 Mt of material within the wireframes is below the cut-off grade and were not reported as part of the Mineral Resource. RPA reviewed the location of this material and determined that it was relatively contiguous and could be avoided in the case of underground mining.

Inferred Mineral Resources at Ayawilca are estimated to total 42.7 million tonnes grading 7.3% ZnEq and 10.5 million tonnes grading 0.70% SnEq. Both of the Mineral Resources are reported at an NSR cut-off value of US$55/t. The Tin Zone and Zinc Zone resources do not overlap.

Table 14-9 reports tonnages and grades in the Zinc Zone by NSR cut-off grade

TABLE 14-9 AYAWILCA TONNAGE AND GRADE REPORT – OCTOBER 10, 2017
Tinka Resources Limited – Ayawilca Property

NSR US$/t Cut-off	Tonnage (Mt)	ZnEq%	Zinc %	Lead %	Indium g/t	Silver g/t
40	47.2	6.9	5.6	0.2	74	16
50	44.6	7.1	5.8	0.2	77	17
55	**42.7**	**7.3**	**6.0**	**0.2**	**79**	**17**
60	40.1	7.5	6.1	0.2	82	17
70	33.8	8.1	6.6	0.2	92	18

Notes:
1. CIM (2014) definitions were followed for Mineral Resources.
2. Mineral Resources are reported above a cut-off NSR value of US$55 per tonne.
3. The NSR value was based on estimated metallurgical recoveries, assumed metal prices and smelter terms, which include payable factors, treatment charges, penalties, and refining charges. Metal price assumptions were: US$1.15/lb Zn, US$300/kg In, US$18/oz Ag, and US$1.10/lb Pb. Metal recovery assumptions were: 90% Zn, 75% In, 60% Ag, and 75% Pb. The NSR value for each block was calculated using the following NSR factors: US$15.34 per % Zn, US$6.15 per % Pb, US$0.18 per gram In, and US$0.27 per gram Ag
4. The NSR value was calculated using the following formula:
NSR = [Zn(%)*US$15.34+Pb(%)*US$6.15+In(g/t)*US$0.18+Ag(g/t)*US$0.27]
The ZnEq value was calculated using the following formula: ZnEq = NSR/US$15.34
5. Numbers may not add due to rounding.

Table 14-10 reports tonnages and grades in the Tin Zone by NSR cut-off grade. Approximately 1.6 million tonnes of material within the wireframes are below the cut-off grade and were not reported as part of the Mineral Resource. RPA reviewed the location of this material and determined that it was relatively contiguous and could be avoided in the case of underground mining.

TABLE 14-10 AYAWILCA TONNAGE AND GRADE REPORT – OCTOBER 10, 2017
Tinka Resources Limited – Ayawilca Property

NSR US$/t Cut-off	Tonnage (Mt)	SnEq%	Tin %	Copper %	Silver g/t
40	10.9	0.68	0.61	0.23	12
50	10.7	0.70	0.62	0.23	12
55	**10.5**	**0.70**	**0.63**	**0.23**	**12**
60	9.9	0.72	0.64	0.24	13
70	8.3	0.78	0.70	0.24	13

Notes:
1. CIM (2014) definitions were followed for Mineral Resources.
2. Mineral Resources are reported above a cut-off grade of US$55 per tonne NSR value.
3. The NSR grade was based on estimated metallurgical recoveries, assumed metal prices and smelter terms, which include payable factors, treatment charges, penalties, and refining charges. Metal price assumptions were: US$9.50/lb Sn, US$3/lb Cu, and US$18/oz Ag. Metal recovery assumptions were: 86% Sn, 75% Cu, and 60% Ag. The NSR value for each block was calculated using the following NSR factors: US$164.53 per % Sn, US$39.95 per % Cu, and US$0.27 per gram Ag.
4. The NSR value was calculated using the following formula:
NSR = [Sn(%)*US$164.53+Cu(%)*US$39.95+Ag(g/t)*US$0.27].

5. The SnEq value was calculated using the following formula:
   SnEq = NSR/US$164.53
6. Numbers may not add due to rounding.

MINERAL RESOURCE VALIDATION

RPA validated the block model by visual inspection, volumetric comparison, and statistical comparison of block grades to assay and composite grade. Visual comparison on vertical sections and plan views, and a series of swath plots found good overall correlation between the block grade estimates and supporting composite grades.

The estimated total volume of the wireframe models is 16,646,000 m^3, while the volume of the block model at a zero-grade cut-off is 16,591,000 m^3. Results are listed by zone in Table 14-11.

TABLE 14-11 VOLUME COMPARISON - AYAWILCA
Tinka Resources Limited – Ayawilca Property

Area	Block Volume (m^3 x1000)	Wireframe Volume (m^3 x1000)
West	3,119	3,121
Central	4,249	4,251
East	2,268	2,268
South	4,075	4,083
Tin Zones	2,879	2,923
Total	**16,591**	**16,646**

Statistical analysis comparing estimated block grades versus informing date are shown in a histogram format in Figures 14-8 and 14-9 for Zinc and Tin Zones respectively.

FIGURE 14-8 HISTOGRAMS OF THE ESTIMATED BLOCK GRADES – ZINC ZONE

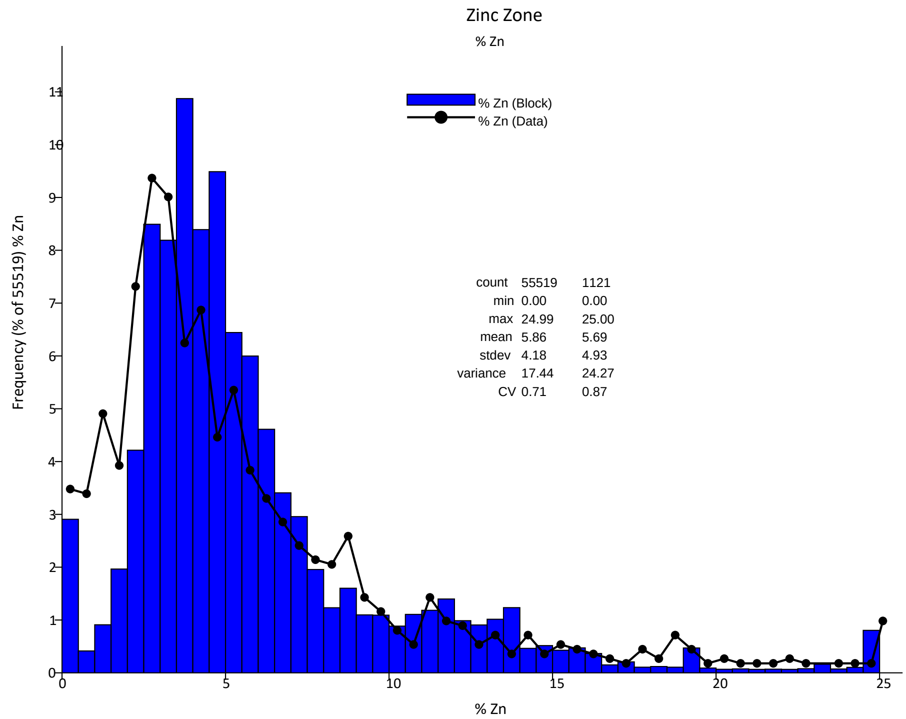
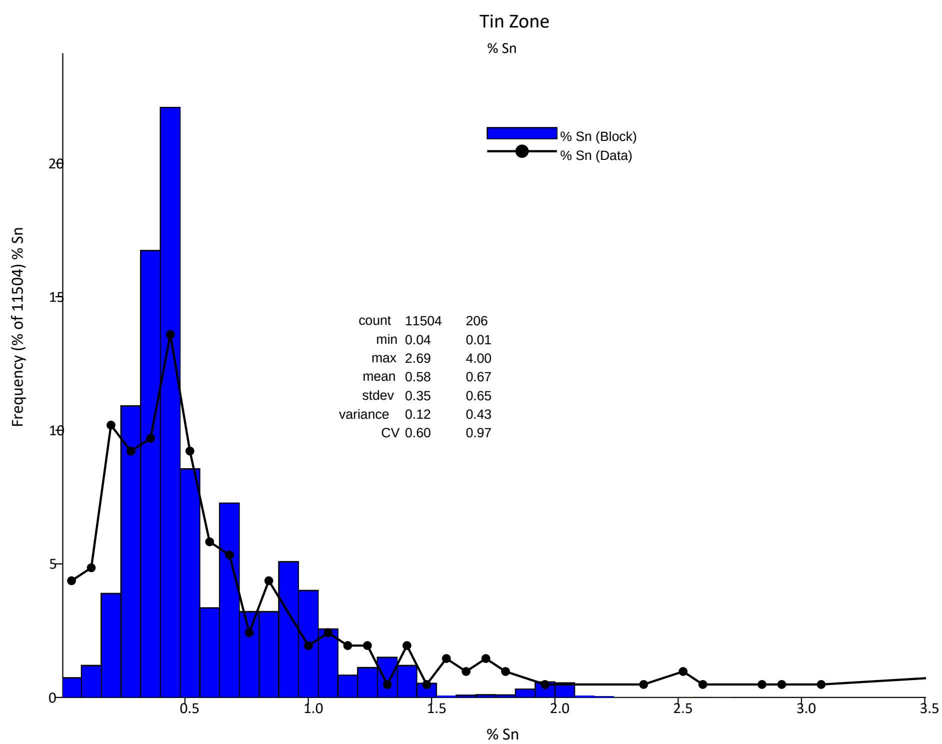


FIGURE 14-9 HISTOGRAMS OF THE ESTIMATED BLOCK GRADES – TIN ZONE



COLQUIPUCRO MINERAL RESOURCE ESTIMATE

The Colquipucro resource database includes 8,003 m in 50 drill holes. There has been no additional drilling at Colquipucro since the Mineral Resource estimate by RPA dated February 23, 2015 (RPA, 2015). The February 23, 2015 Colquipucro Mineral Resource estimate was subsequently reported in a 2016 NI 43-101 Technical Report by RPA, in which it remained unchanged as of the effective date of May 25, 2016 (RPA, 2016). Since there are no new data and the metal price and cost assumptions remain reasonable, the Colquipucro Mineral Resource estimate remains current as of the effective date of May 25, 2016.

A set of cross-sections and level plans were interpreted to construct 3D wireframe models at a cut-off grade of 60 g/t Ag for the high grade lenses and 15 g/t Ag for the low grade halo mineralization. Prior to compositing to two metre lengths, high silver values were cut to 360 g/t Ag in the high grade lenses, and 120 g/t Ag in the low grade halo. Block model grades within the wireframe models were interpolated by ID^3. Density values were estimated from 41 measurements to be 2.48 t/m^3. Classification into the Indicated and Inferred categories was guided by the drill hole spacing and the continuity of the mineralized zones.

RESOURCE DATABASE

RPA received header, survey, assay, alteration, and geology data from Tinka in Microsoft Excel format. Data was amalgamated and parsed as required, converted to ASCII, and imported into Dassault Systèmes GEOVIA GEMS Version 6.7 (GEMS) and ARANZ Leapfrog Geo version 2.1.2 (Leapfrog Geo) for Mineral Resource modelling. The latest drill hole included in the database and resource estimate is CDD46. Listed below is a summary of records for all drilling on the Colquipucro deposit:

- Holes: 50
- Surveys: 1,297
- Assays: 4,227
- Composites 2,069
- Lithology: 2836
- RQD and recovery: 4,043
- Oxidation: 843
- Density measurements: 90

Section 12, Data Verification, describes the verification steps made by RPA. In summary, no discrepancies were identified and RPA is of the opinion that the drill hole database is valid and suitable to estimate Mineral Resources for the Colquipucro deposit.

GEOLOGICAL INTERPRETATION AND 3D SOLIDS

Wireframe models of mineralized zones were used to constrain the block model grade interpolation process. RPA interpreted and constructed wireframe models using a nominal cut-off grade of 15 g/t Ag and a minimum core length of two metres using Leapfrog Geo. Wireframes of the high grade lenses were created at a minimum grade of approximately 60 g/t Ag.

RPA built two low grade halo domains and eleven high grade lens domains (Figure 14-10). Overall, the deposit is 550 m in the north-south direction by 380 m in the east-west direction by 75 m thick. The deposit is located on a topographic high and ranges between 4,160 m and 4,360 m elevations. RPA also created wireframe models of the main lithologies including the Goyllar sandstone, the Pucará Formation, colluvium, and the Excelsior Formation. The colluvium domain was grouped with the low grade halo as it commonly made up of mineralized material. Brief descriptions of the domains/lenses are provided below:

- Eight parallel yet similar high grade lenses, named 102 to 109, are located towards the south end of the deposit. They dip between 35° and 45° towards the north. They commonly have dimensions of 200 m along strike by 100 m down dip, and range in thickness between 2 m and 20 m, averaging 6 m. All are hosted entirely in the Goyllar sandstone. Collectively, the eight zones are intersected by 17 drill holes.

- Domain 110 is located immediately north of domain 105 and is also hosted in the Goyllar sandstone. It dips shallower than the previously described domains and measures 150 m along strike by 100 m down dip and averages 30 m thick. Domain 110 is intersected by seven holes.

- Domain 111 is a flat, thick high grade domain at the north end of the deposit. It measures 160 m north-south by 60 m east-west and average 40 m thick, and is also hosted in the Goyllar sandstone. Domain 111 is also intersected by seven holes.

- Domain 101 forms a shallow dipping basal high grade zone near the bottom of the Goyllar sandstone. It measures 500 m north-south by 300 m east-west and ranges between 2 m and 20 m thick, averaging 7 m thick. Domain 101 is intersected by 39 holes.

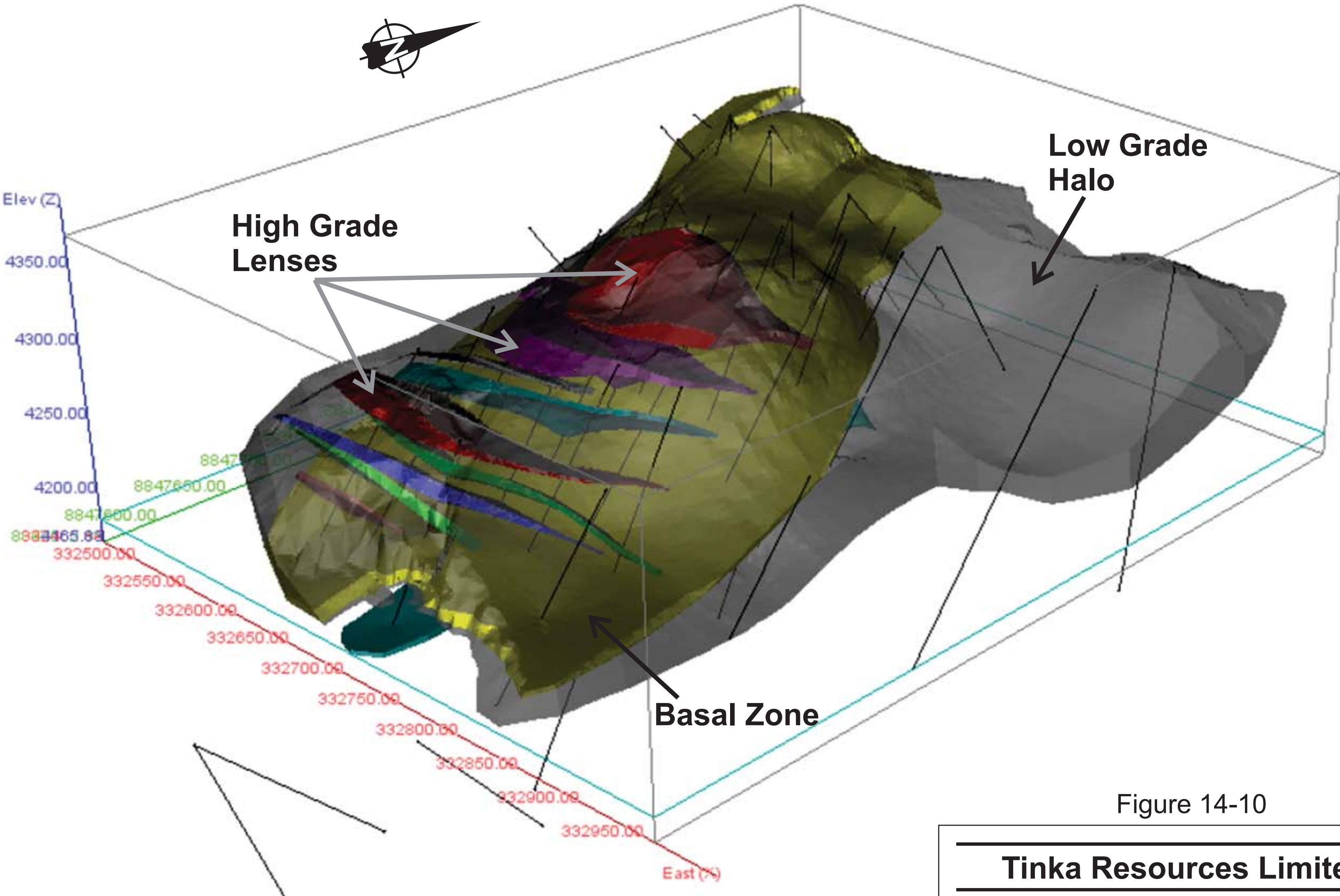


Figure 14-10

Tinka Resources Limited

Ayawilca Property

Department of Pasco, Peru

3D View of Colquipucro Wireframe Models

December 2017

Source: RPA, 2015.

- Domain 50 is a large low grade halo interpreted to surround the high grade domains. It measures 550 m in the north-south direction by 380 m in the east-west direction by 75 m thick. Most of its volume is located within the Goyllar sandstone, however, it extends down into the Pucará Formation towards its eastern half. Parts of Domain 50 are not captured by the preliminary open pit shell used to report Mineral Resources.

- Domain 51 is shallow dipping low grade domain located entirely within the Pucará Formation. Parts of Domain 51 are not captured by the preliminary open pit shell used to report Mineral Resources.

STATISTICAL ANALYSIS

Assay values located inside the wireframe models were tagged with domain identifiers and exported for statistical analysis. Results were used to help verify the modelling process. Basic statistics by domain are summarized in Table 14-12.

TABLE 14-12 DESCRIPTIVE STATISTICS OF RESOURCE ASSAY VALUES - COLQUIPUCRO

Tinka Resources Limited – Ayawilca Property

Parameter	High Grade Lenses	Low Grade Halos
No. of Cases	567	1,448
Minimum (Ag g/t)	0.4	0.1
Maximum (Ag g/t)	1,950	745
Median (Ag g/t)	84	19
Arithmetic Mean (Ag g/t)	124	26
Standard Deviation (Ag g/t)	160	40
Coefficient of Variation	1.3	1.5

CUTTING HIGH GRADE VALUES

Where the assay distribution is skewed positively or approaches log-normal, erratic high grade assay values can have a disproportionate effect on the average grade of a deposit. One method of treating these outliers in order to reduce their influence on the average grade is to cut or cap them at a specific grade level. In the absence of production data to calibrate the cutting level, inspection of the assay distribution can be used to estimate a “first pass” cutting level.

Review of the resource assay histograms within the wireframe domains (Figures 14-11 and 14-12) and a visual inspection of high-grade values on vertical sections suggest cutting erratic values 360 g/t Ag in the high grade lenses, and 120 g/t Ag in the low grade halo. The coefficient of variation values are reduced to less than one after the cutting was applied (Table 14-13).

FIGURE 14-11 HISTOGRAM ASSAYS WITHIN HIGH GRADE LENSES

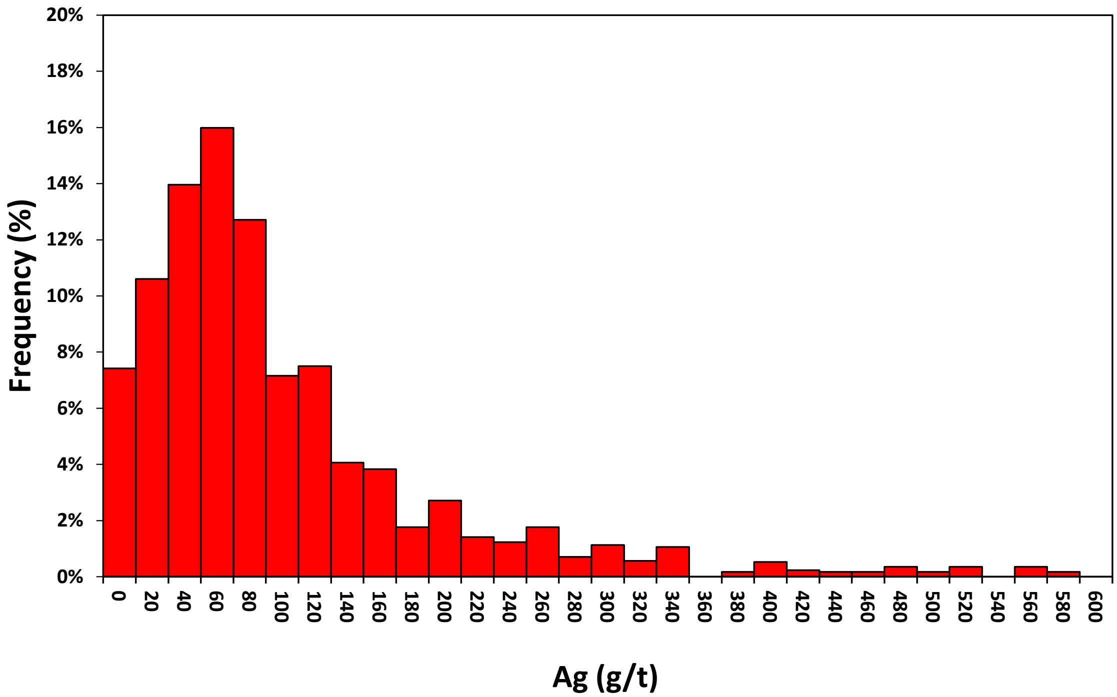


FIGURE 14-12 HISTOGRAM ASSAYS WITHIN LOW GRADE HALO

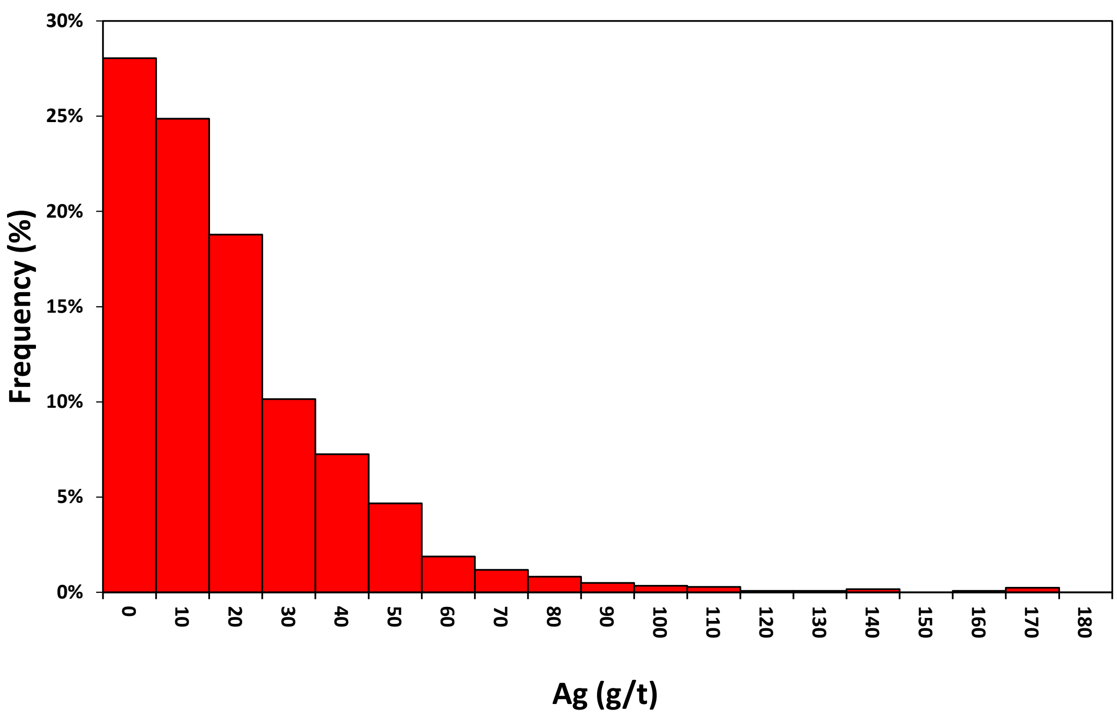


TABLE 14-13 DESCRIPTIVE STATISTICS OF CUT RESOURCE ASSAY VALUES - COLQUIPUCRO
Tinka Resources Limited – Ayawilca Property

Parameter	High Grade Lenses	Low Grade Halos
No. of Cases	567	1,448
Minimum (Ag g/t)	0.4	0.1
Maximum (Ag g/t)	360	120
Median (Ag g/t)	84	19
Arithmetic Mean (Ag g/t)	110	24
Standard Deviation (Ag g/t)	89	22
Coefficient of Variation	0.8	0.9

COMPOSITING

Sample lengths range from 0.6 m to 6.0 m within the wireframe models with more than 90% taken at two metres. Given these distributions, and considering the width of the mineralization, RPA chose to composite to two metre lengths. Assays within the wireframe domains were composited starting at the first mineralized wireframe boundary from the collar and resetting at each new wireframe boundary. Composites less than 0.5 m, located at the bottom of the mineralized intercept, were removed from the database. Table 14-14 lists descriptive statistics of the composites by zone.

TABLE 14-14 DESCRIPTIVE STATISTICS OF COMPOSITE VALUES - COLQUIPUCRO
Tinka Resources Limited – Ayawilca Property

Parameter	High Grade Lenses	Low Grade Halos
No. of Cases	576	1,493
Minimum (Ag g/t)	0.4	0.0
Maximum (Ag g/t)	360	120
Median (Ag g/t)	82	18
Arithmetic Mean (Ag g/t)	109	24
Standard Deviation (Ag g/t)	89	22
Coefficient of Variation	0.8	0.9

INTERPOLATION PARAMETERS

Grade interpolation for silver was estimated by ID^3 using two passes for the high grade lenses and three passes for the lower grade halo domains. Figures 14-13 and 14-14 illustrate the results.

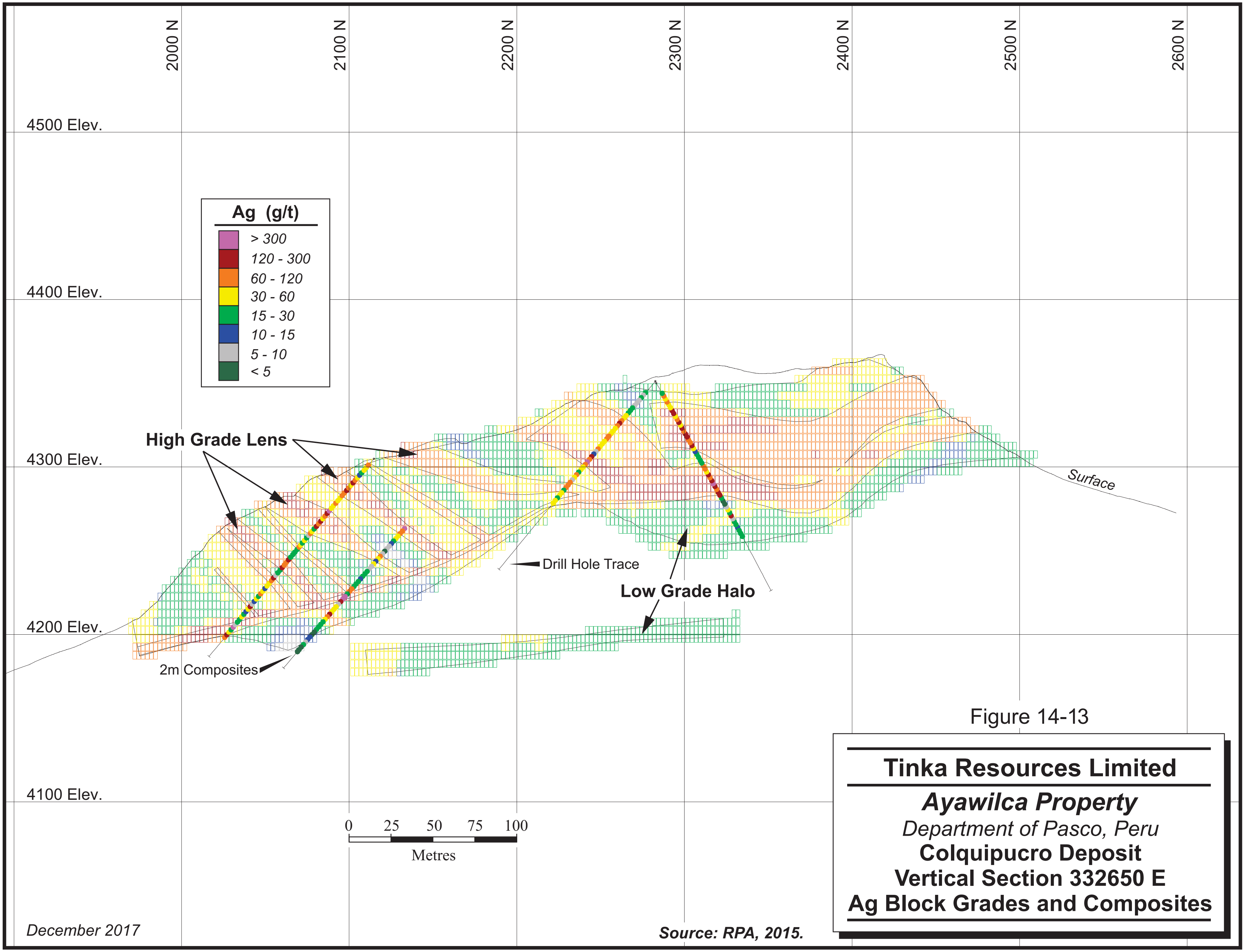


Figure 14-13

Tinka Resources Limited

Ayawilca Property

Department of Pasco, Peru

Colquipucro Deposit
Vertical Section 332650 E
Ag Block Grades and Composites

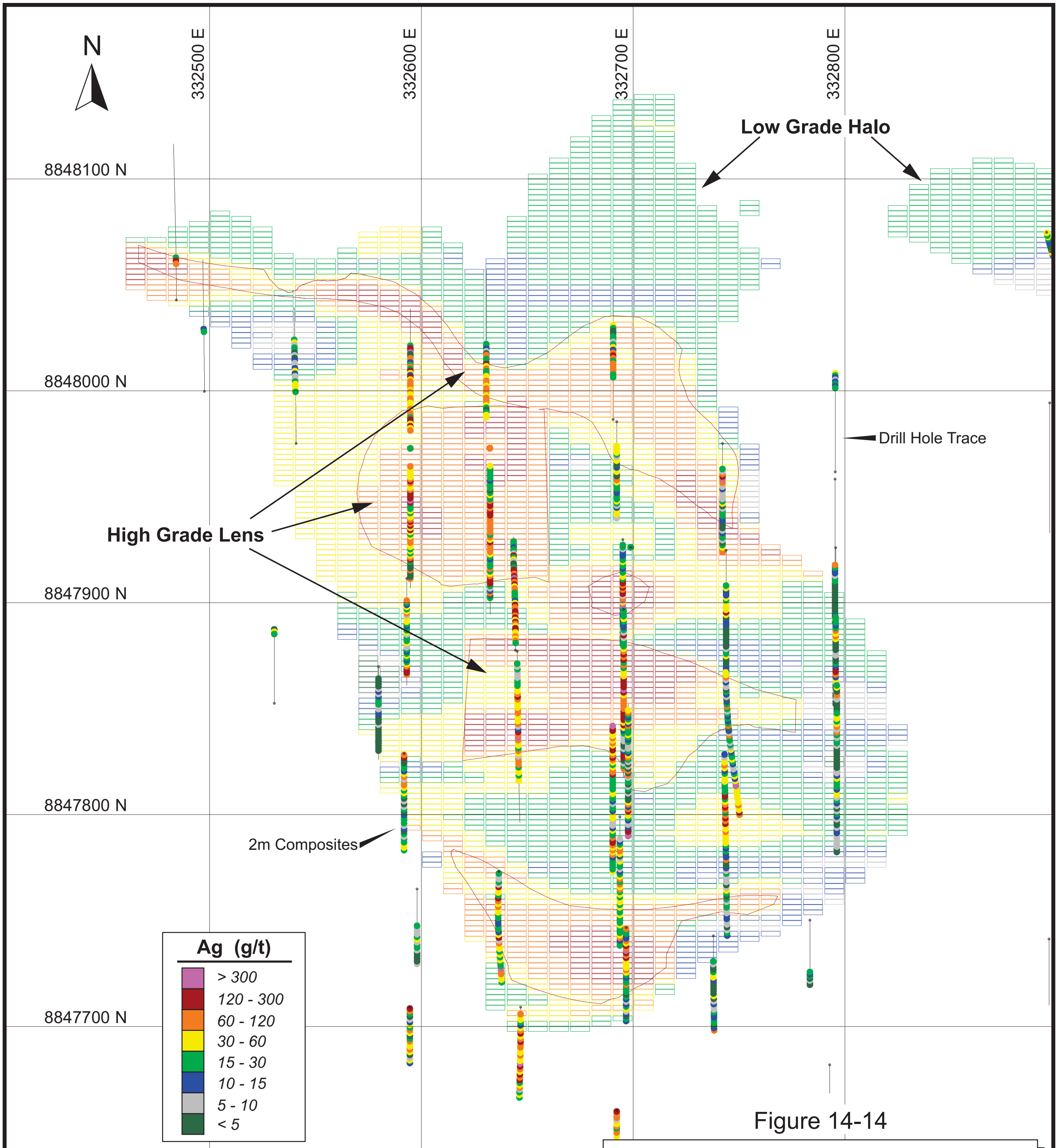


Figure 14-14

Tinka Resources Limited

Ayawilca Property

Department of Pasco, Peru

Colquipucro Deposit
4,300 m Level Plan
Ag Grade Blocks and Composite

December 2017

Source: RPA, 2015.

The first pass strategy for high grade lenses required a minimum of two to a maximum of 12 composites, with a maximum of four composites per hole. The search ellipse dimensions were 50 m by 50 m by 10 m for an anisotropy ratio of 1:1:5. Search ellipse orientations were aligned in the direction of the wireframe models (Table 14-15). Pass two was similar except that the minimum required number of composites was reduced to one, there was no restriction of composites per hole, and the search ellipse dimensions were doubled to 100 m by 100 m by 20 m.

The search strategy for the first pass for low grade halos required a minimum of two to a maximum of 12 composites, with a maximum of four composites per hole. The search ellipse was isotropic with a radius of 50 m. Pass two was similar except that the minimum required number of composites was reduced to one, there was no restriction of composites per hole, and the search ellipse radius was doubled to 100 m. A third pass was required to fill a few blocks along the fringes of the wireframe models. The parameters for the third pass were the same as those for the second pass except that a radius of 180 m was used.

TABLE 14-15 BLOCK ESTIMATE SEARCH STRATEGY - COLQUIPUCRO
Tinka Resources Limited – Ayawilca Property

Domain	Principal Azimuth (º)	Principal Dip (º)	Intermediate Azimuth (º)
101	0	05	60
102	0	-35	5
103	0	-35	-20
104	0	-30	5
105	0	-22.5	15
106	0	-30	-15
107	0	-37.5	-2.5
108	0	-45	7.5
109	0	-50	2.5
110	**0**	**-25**	**0**
111	0	5	0

DENSITY

Tinka performed 90 density measurements from four drill holes. RPA used the average of the measurements, 2.48 t/m^3, to convert resource volumes to tonnage. RPA recommends that Tinka make density measurements at site using the wax-sealed Archimedes method.

BLOCK MODEL

The GEMS block model is made up of 76 columns, 300 rows, and 80 levels. The model origin (lower-left corner at highest elevation) is at coordinates 332,410 mE, 8,847,430 mN and 4,400 m elevation. Each block is 10 m long by 2.5 m wide by 5 m high. A partial block model is used to manage blocks partially filled by mineralized rock types, including blocks along the edges of the deposit. A partial model has a parallel block model containing the percentage of mineralized rock types contained within each block. A GEMS block model folder was created for the high grade lenses and the low grade halo. The block model contains the following information:

- domain identifiers with rock type;
- estimated grades of silver inside the wireframe models;
- the percentage volume of each block within the mineralization wireframe models;
- resource classification;
- tonnage factors, in tonnes per cubic metre; and
- the distance to the closest composite used to interpolate the block grade.

CLASSIFICATION

Definitions for resource categories used in this report are consistent with those defined by CIM (2014) and adopted by NI 43-101. In the CIM classification, a Mineral Resource is defined as "a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction." Mineral Resources are classified into Measured, Indicated, and Inferred categories. A Mineral Reserve is defined as the "economically mineable part of a Measured and/or Indicated Mineral Resource" demonstrated by studies at Pre-Feasibility or Feasibility level as appropriate. Mineral Reserves are classified into Proven and Probable categories. No Mineral Reserves have been estimated for the Colquipucro deposit.

Two areas of the deposit were classified as Indicated: the central core, where the drill hole spacing is 50 m by 50 m or closer, and an area towards the north end of the deposit, where the drill hole spacing is closer and the mineralization exhibits good grade continuity. Classification was assigned using manually constructed wireframe solids.

CUT-OFF GRADE AND PRELIMINARY OPEN PIT SHELL

To fulfill the CIM requirement of "reasonable prospects for eventual economic extraction", RPA prepared a preliminary open pit shell to constrain the block model for resource reporting purposes. The preliminary pit shell was generated using Whittle software.

It was determined that the metallurgical processes would be heap leaching (HL) and agitation cyanide leaching (mill) for low grade and high grade silver mineralization respectively, given the silver grade range within the deposit. A value trade-off gave approximately 60 g/t Ag as the mill cut-off grade, or the point at which to switch to HL. The G&A costs were assumed to be paid by the mill. Iterative optimizations were run varying operating costs according to production rates assumptions in both HL and mill to converge to resource having an HL to mill tonnage ratio in line with the assumptions.

The parameters used in the Whittle pit shell analysis for the resource constraint are listed in Table 14-16.

TABLE 14-16 PRELIMINARY PIT OPTIMIZATION PARAMETERS
Tinka Resources Limited – Ayawilca Property

Parameter	Value
Pit Slope	45°
Process Recovery Heap Leach	50%
Process Recovery Mill	80%
Price	$24/oz Ag
Mining Cost	2.60 $/t mined
Heap Leach Cost	3.74 $/t milled
Milling Cost	21.65 $/t milled
G&A	4.48 $/t milled

MINERAL RESOURCE REPORTING

Mineral Resources at Colquipucro are reported within a preliminary pit shell generated in Whittle software at a cut-off of 15 g/t Ag. Indicated Mineral Resources are estimated to total 7.4 million tonnes at an average grade of 60 g/t Ag containing 14.3 million ounces of silver (Table 14-17). Inferred Mineral Resources are estimated to total 8.5 million tonnes at an average grade of 48 g/t Ag containing 13.2 million ounces of silver. More than half the contained metal is from the high grade lenses, at average grades greater than 100 g/t Ag. A small amount of mineralization was not captured by the Whittle shell.

Mineral Resources are contained within ten north dipping high grade lenses, a gently dipping basal zone, and a low grade halo that encompasses all high grade lenses. Overall, the deposit is 550 m in the north-south direction by 380 m in the east-west direction by 75 m thick. The deposit is located on a topographic high and ranges between 4,160 m and 4,360 m elevations. No Mineral Reserves have yet been estimated at Colquipucro.

TABLE 14-17 COLQUIPUCRO MINERAL RESOURCES – MAY 25, 2016
Tinka Resources Limited – Ayawilca Property

Class/Zone	Tonnage (Mt)	Ag (g/t)	Ag (Moz)
Indicated			
High Grade Lenses	2.9	112	10.4
Low Grade Halo	4.5	27	3.9
Total Indicated	**7.4**	**60**	**14.3**
Inferred			
High Grade Lenses	2.2	105	7.5
Low Grade Halo	6.2	28	5.7
Total Inferred	**8.5**	**48**	**13.2**

Notes:
1. CIM (2014) definitions were followed for Mineral Resources.
2. Mineral Resources are reported within a preliminary pit shell and above a cut-off grade of 15 g/t Ag for the Low Grade Halo and 60 g/t Au for the High Grade Lenses.
3. The cut-off grade is based on a price of US$24/oz Ag.
4. Numbers may not add due to rounding.

MINERAL RESOURCE VALIDATION

RPA validated the block model by visual inspection, volumetric comparison, and scatterplots. Visual comparison on vertical sections and plan views, and a series of swath plots found good overall correlation between the block grade estimates and supporting composite grades.

The estimated total volume of the wireframe models is 11,957,000 m^3, while the volume of the block model at a zero grade cut-off is 11,956,000 m^3. Results are listed by vein in Table 14-18.

TABLE 14-18 VOLUME COMPARISON - COLQUIPUCRO
Tinka Resources Limited – Ayawilca Property

Zone	Block Volume (m^3 x1000)	Wireframe Volume (m^3 x1000)
High Grade Lenses	2,220	2,221
Low Grade Halo	9,736	9,736
Total	**11,956**	**11,957**

15 MINERAL RESERVE ESTIMATE

There is no current Mineral Reserve estimate on the Property.

16 MINING METHODS

This section is not applicable.

17 RECOVERY METHODS

This section is not applicable.

18 PROJECT INFRASTRUCTURE

This section is not applicable.

19 MARKET STUDIES AND CONTRACTS

This section is not applicable.

20 ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT

This section is not applicable.

21 CAPITAL AND OPERATING COSTS

This section is not applicable.

22 ECONOMIC ANALYSIS

This section is not applicable.

23 ADJACENT PROPERTIES

To RPA's knowledge, there are no significant adjacent properties near the Ayawilca Property. Several significant mineral deposits located within the same region are listed in the Regional Geology section of this report, however, these are 25 km to more than 100 km away.

24 OTHER RELEVANT DATA AND INFORMATION

No additional information or explanation is necessary to make this Technical Report understandable and not misleading.

25 INTERPRETATION AND CONCLUSIONS

The Property is located in the Central Peru polymetallic belt and is at the exploration stage. The Ayawilca and Colquipucro deposits are 1.5 km apart but are hosted in different stratigraphic units and will potentially be mined by different methods, underground for the Ayawilca deposits and open pit for the Colquipucro deposit.

The Ayawilca Zinc and Tin Zones are hosted within a brecciated limestone unit approximately 200 m thick belonging to the Pucará Group of Jurassic-Triassic age. The mineralization is "blind" lying beneath 150 m to 200 m of sandstone cover. The Zinc Zone mineralization is in the form of multiple, gently dipping sphalerite-pyrite (pyrrhotite-magnetite-carbonate) sulphide lenses, or "mantos", within four structural areas (South, West, Central, and East). The mantos merge into thicker zones or "chimneys" at South and West Ayawilca. The Tin Zone mineralization occurs as shallow to flat dipping pyrrhotite-rich mantos at the base of the Pucará limestone, typically lying immediately above the underlying basement (phyllite). This mineralization is predominantly hosted by cassiterite (a tin oxide) while copper is predominantly hosted by chalcopyrite.

The regional setting, geometry, and mineralogy suggest that Ayawilca is a carbonate replacement deposit (CRD), similar to several other deposits in the Central Peru polymetallic belt, including Cerro de Pasco. Mineralization is believed to be Miocene in age, possibly associated with an intrusion at depth which has not been identified.

The Colquipucro silver oxide deposit is hosted primarily within the Goyllarisquizga Formation quartz sandstone of Cretaceous age, which lies immediately above the Pucará Group limestone. Historical mining focused on a series of en-echelon east-west trending, steeply north dipping faults and veins. In 2006, mapping and sampling by Tinka showed lower grade mineralization in narrow fractures between the high grade veins. The deposit has been modelled to include ten north dipping high grade zones, a gently dipping basal zone, and a low grade halo that encompasses all high grade zones. Overall, the deposit is 550 m in the north-south direction by 380 m in the east-west direction by 75 m thick. Weathering at Colquipucro is extensive. Preliminary metallurgical test work suggests that the mineralization is amenable to heap leach recovery methods. Colquipucro is the only known and documented sandstone-hosted oxide silver deposit in Peru. Colquipucro is tentatively classified as a disseminated, intermediate-sulphidation epithermal deposit (now oxidized) lying above and on the margin of the deeper, sulphide-rich deposit.

Tinka's protocols for drilling, sampling, analysis, security, and database management meet industry standard practices. The drill hole database was verified by RPA and is suitable for Mineral Resource estimation work.

RPA estimated Mineral Resources for the Ayawilca deposit using the drill results available to October 10, 2017. Mineral Resources at Ayawilca are reported on the basis of a possible underground mining scenario at a NSR cut-off of US$55/t (approximately 3.6% ZnEq cut-off grade for the Zinc Zone and approximately 0.33% SnEq for the Tin Zone). Updated Inferred Mineral Resources at the Ayawilca Zinc Zone are estimated to total 42.7 million tonnes at average grades of 6.0% Zn, 79 g/t In, 17 g/t Ag, and 0.2% Pb (7.3% ZnEq). Inferred Mineral Resources at the Ayawilca Tin Zone are estimated to total 10.5 million tonnes at average grades of 0.63% Sn, 0.23% Cu, and 12 g/t Ag (0.70% SnEq). The two Ayawilca resources are reported separately, since they host different metals and are spatially separated.

There has been no drilling at Colquipucro since the February 23, 2015 Mineral Resource estimate and the Mineral Resources remain current. They are reported within a preliminary pit shell generated in Whittle software at a cut-off of 15 g/t Ag. Indicated Mineral Resources at Colquipucro are estimated to total 7.4 million tonnes at an average grade of 60 g/t Ag containing 14.3 million ounces of silver. Inferred Mineral Resources are estimated to total 8.5 million tonnes at an average grade of 48 g/t Ag containing 13.2 million ounces of silver. More than half the contained metal is hosted in the high grade lenses, at average grades greater than 100 g/t Ag. A small amount of mineralization was not captured by the Whittle shell. No Mineral Reserves have yet been estimated on the Property.

Drill hole A17-082, located at the Chaucha area, one kilometre east of Colquipucro, intersected approximately 92 m of massive hematite ± magnetite ± pyrite hosted in brecciated limestone. No significant zinc mineralization was encountered in this zone, however, the presence of significant massive iron oxides and sulphides is a new style of mineralization at the Property.

26 RECOMMENDATIONS

The Property hosts three deposits with different styles of mineralization and primary commodities. Each deposit, and the Property overall, merits considerable exploration and development work. The primary objectives of the program proposed by Tinka are to expand the Ayawilca Zinc and Tin Zone resources, as well as advance the project through metallurgical/mining desktop studies and a preliminary economic assessment (PEA). RPA concurs with Tinka's planned work program and budget of $7.0 million (Table 26-1) for 2018. Work is expected to include:

- 10,000 m of drilling to explore for additional mineralization at the Ayawilca deposits;
- 2,000 m of drilling for a property-wide exploration;
- metallurgical test work focusing on zinc and tin recovery;
- mining desktop and engineering studies; and
- a PEA.

TABLE 26-1 PROPOSED PHASE 1 BUDGET
Tinka Resources Limited – Ayawilca Property

Item	$M
Drilling (12,000 m at $300/m)	3.6
Desktop mining and Engineering Studies	0.3
Metallurgical Studies	0.3
Permitting, Environmental & Community	0.8
Preliminary Economic Assessment	0.5
Operating Costs/Office	1.5
Total	7.0

A recommended Phase 2 budget of $9.0 million for an additional one year's work program would be contingent on the Phase 1 results. A Phase 2 work program would include additional infill drilling ($4.5 million), metallurgical and engineering studies ($1.0 million), permitting/environment/community ($0.8 million), a pre-feasibility study ($1.0 million), operating costs/office ($1.5 million), and other related work ($0.2 million).

27 REFERENCES

Armenti, M., 2014, Total Magnetic Field Survey Geophysical Report, Ayawilca Project, Pasco Department, Peru, on Behalf of Tinka Resources, S.A.C.: Quantec Geosciences (Peru) S.A.C.

Canadian Institute of Mining, Metallurgy and Petroleum (CIM), 2014, CIM Definition Standards for Mineral Resources and Mineral Reserves, adopted by CIM Council on May 10, 2014.

Cobbing, J., and Sanchez, A.W., 1996, Mapa Geológico del Cuadrangulo de Yanahuanca, Departmento de Pasco (Hoja 21-j): INGEMMET, Instituto Geológico, Minero y Metalúrgico CD.

Compañía de Minas Buenaventura S.A.A., 2016, Annual Report, 2016. 92 pages.

Coney, P.J., 1971, Structural Evolution of the Cordillera Huayhuash, Andes of Peru: Geological Society of America Bulletin.

Einaudi, M., 1977, Environment of Ore Deposition at Cerro de Pasco, Peru, Economic Geology, V 72, pp. 893-924.

Minera El Brocal, 2015, Annual Report 2015. Available on Minera El Brocal website.

Nebocat, J., and Montaño, T. R., 2009, Memorandum on the Geology, Structural Controls and Mineral Potential of the Colquipucro Bulk-Tonnage Silver Deposit, Central Peru: Tinka Resources Limited, in-house memorandum.

Nebocat, J., and Montaño, 2014, Amended and Restated Progress Report on the Geology, Exploration and Mineral Resources of the Colquipucro Project, Department of Pasco, Peru.

Nebocat, J., 2007, Memorandum, Colquipucro, July 2007: in-house memorandum.

Nebocat, J., 2006, Memorandum on Visit to Colquipucro Project, West-Central Peru: in-house memorandum.

Nebocat, J., 2014a, Amended and Restated Progress Report of the Geology, Exploration and Mineral Resources of the Colquipucro Project, Department of Pasco, Peru, prepared for Tinka Resources Ltd., filed on SEDAR (April 9, 2014).

Nebocat, J., 2014b, Progress Report of the Geology and Exploration of the Colquipucro & Ayawilca Projects, Department of Pasco, Peru. Internal progress report prepared for Tinka Resources Ltd. dated July 10, 2014.

Pfiffner O.A., 2013, Mesozoic-Cenozoic Evolution of the Western Margin of South America: Case Study of the Peruvian Andes: Geosciences 2013.

Redwood, S.D., 2004, Geology and Development History of the Antamina Copper-Zinc Skarn Deposit, Peru: Economic Geology, Special Publication 11, Andean Metallogeny: New Discoveries, Concepts and Updates, pp. 259-277.

Rosas, S., et al, 2007, Tectonic evolution and paleogeography of the Mesozoic Pucará Basin, central Peru: Journal of South American Earth Sciences 24.

RPA, 2015, Technical Report on the Mineral Resource Estimate for the Ayawilca-Colquipucro Property, Department of Pasco, Peru. NI 43-101 Technical Report prepared for Tinka Resources Limited by David Ross (March 25, 2015) and filed on SEDAR.

RPA, 2016, Technical Report on the Mineral Resource Estimate for the Ayawilca-Colquipucro Property, Department of Pasco, Peru. NI 43-101 Technical Report prepared for Tinka Resources Limited by David Ross (June 29, 2016) and filed on SEDAR.

Parades, R.Y., 2013, Project Ayawilca, Re-processing & Data Integration Report, 3D Data Integration and Re-processing of Induced Polarisation for Tinka Resources S.A.C.: Fugro Ground Geophysics Pty Ltd.

Plenge, C.H. & Cia, 2009, Proyecto Colquipucro – Pillao, Muestras CDD6 y CDD13 Cyanidation, Tinka Resources, S.A.: Investigation Metalurgica No. 7327-28.

SGS UK, 2016, Metallurgical Scoping Study on a Composite Sample from Ayawilca Deposit in Peru, prepared for Tinka Resources. December 21, 2016. 30 pages.

Sillitoe, R. H., 2010, Porphyry Copper Systems, Economic Geology V. 105, pp 3-41

Szekely, T.S., and Grose, L.T., 1971, Stratigraphy of the Carbonate, Black Shale, and Phosphate of the Pucará Group (Upper Triassic-Lower Jurassic), Central Andes, Peru: Geological Association of America Bulletin, pp. 407-428.

Transmin Metallurgical Consultants, 2016. Fase 1 Pruebas Metalúrgicas de Flotación. Internal report prepared for Tinka Resources. September 30, 2016. 61 pages.

Trevali Mining Corporation, 2017. Corporate Presentation dated December 2017. 24 pages.

28 DATE AND SIGNATURE PAGE

This report titled "Technical Report on the Mineral Resource Estimate for the Ayawilca Property, Department of Pasco, Peru" and dated December 11, 2017, was prepared and signed by the following author:

(Signed and Sealed) ***"David Ross"***

Dated at Toronto, ON
December 11, 2017

David Ross, M.Sc., P.Geo.
Principal Geologist

29 CERTIFICATE OF QUALIFIED PERSON

DAVID ROSS

I, David Ross, M.Sc., P.Geo., as the author of this report entitled “Technical Report on the Mineral Resource Estimate for the Ayawilca Property, Department of Pasco, Peru” prepared for Tinka Resources Limited and dated December 11, 2017, do hereby certify that:

1. I am Principal Geologist with Roscoe Postle Associates Inc. of Suite 501, 55 University Ave Toronto, ON M5J 2H7.

2. I am a graduate of Carleton University, Ottawa, Canada in 1993 with a Bachelor of Science degree in Geology and Queen’s University, Kingston, Canada in 1999 with a Master of Science degree in Mineral Exploration.

3. I am registered as a Professional Geoscientist in the Province of Ontario (Reg. #1192). I have worked as a geologist for more than 20 years since my graduation. My relevant experience for the purpose of the Technical Report is:
   - Review and report as a consultant on numerous mining and exploration projects around the world for due diligence and regulatory requirements.
   - Twelve years’ experience estimating Mineral Resources for precious and base metals, uranium, and iron ore. This experience included more than 100 deposits ranging from greenfield projects to operating mines.
   - Exploration geologist on a variety of gold and base metal projects in Canada, Indonesia, Chile, and Mongolia.

4. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

5. I visited the Ayawilca Property on December 11 to 14, 2014 and again on January 11 to 13, 2016.

6. I am responsible for all sections of the Technical Report.

7. I am independent of the Issuer applying the test set out in Section 1.5 of NI 43-101.

8. In 2015 and again in 2016, I estimated the Mineral Resources for both Colquipucro and Ayawilca, and prepared supporting NI 43-101 reports.

9. I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.

10. At 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 that is required to be disclosed to make the Technical Report not misleading.

Dated this 11th day of December, 2017.

(Signed and Sealed) ***"David Ross"***

David Ross, M.Sc., P.Geo.

30 APPENDIX 1

DRILL HOLE DATA

Tables 30-1 to 30-5 list collar locations and drill hole intercepts used to estimate Mineral Resources at the Ayawilca Zinc Zone, Tin Zone, and the Colquipucro Silver Zone. Collar locations are in UTM, Zone 18 South WGS84 projection system.

TABLE 30-1 BOREHOLES USED TO ESTIMATE AYAWILCA RESOURCES

Hole ID	X (m)	Y (m)	Z (m)	Length (M)	Azimuth	Dip
A12-001	332965.85	8845681.81	4209.77	327.1	360	-60.0
A12-002	332965.82	8845680.96	4209.76	303.0	360	-90.0
A12-003	332971.06	8845840.09	4227.02	349.5	180	-70.0
A12-004A	332744.29	8845819.27	4240.69	285.6	360	-90.0
A12-005	332744.17	8845820.42	4240.65	327.7	360	-60.0
A12-006	333368.85	8845786.95	4152.99	359.5	360	-60.0
A12-007	333368.62	8845786.34	4153.21	367.1	360	-90.0
A12-008	333166.01	8845673.90	4190.60	344.2	180	-70.0
A12-009	333166.00	8845674.63	4190.58	360.8	360	-90.0
A12-010	333168.18	8845828.99	4181.26	366.6	180	-70.0
A13-001	333368.20	8845669.95	4145.70	360.0	180	-70.0
A13-002	333166.03	8845672.57	4190.65	370.9	180	-60.0
A13-003	333367.41	8845672.72	4145.65	338.3	180	-90.0
A13-004	333368.03	8845672.06	4145.69	380.1	180	-60.0
A13-005	332727.86	8845706.59	4243.31	361.5	360	-90.0
A13-006	332727.87	8845705.88	4243.32	400.1	180	-70.0
A13-007	332727.44	8845705.68	4243.40	314.1	270	-60.0
A13-008	332730.06	8845705.64	4243.36	350.6	90	-70.0
A13-009	332963.55	8845682.26	4212.83	347.8	180	-60.0
A13-010	333284.06	8845496.52	4167.47	326.1	360	-69.9
A13-011	333284.24	8845495.02	4167.50	344.2	180	-69.8
A13-012A	333469.44	8845640.98	4130.71	356.8	180	-69.9
A13-013	333572.62	8845581.65	4119.94	386.8	180	-65.5
A13-014	333279.42	8845754.80	4167.09	398.7	360	-60.9
A13-015	333075.18	8845685.46	4204.84	355.4	180	-64.9
A13-016	333674.05	8845931.85	4112.82	454.7	360	-59.6
A13-017	333674.00	8845931.12	4112.81	422.3	360	-75.6
A14-018	333667.54	8846066.04	4121.58	448.3	360	-60.0
A14-019	332719.27	8845572.08	4259.29	407.9	360	-75.0
A14-020	332658.72	8845613.06	4267.46	362.7	360	-70.0
A14-021	333880.40	8845739.32	4002.06	514.0	350	-60.0
A14-022	332771.00	8845558.98	4254.37	355.1	10	-70.0
A14-023	332846.29	8845552.85	4240.65	323.1	360	-75.0
A14-024	333869.45	8846018.60	4065.44	455.9	360	-70.0
A14-025	332670.22	8845690.95	4255.63	350.4	360	-70.0
A14-026	332771.28	8845555.85	4254.44	321.4	180	-85.0
A14-027	333382.07	8845343.02	4197.40	500.7	360	-80.0
A14-028	334097.33	8846023.37	4072.90	535.5	340	-70.0
A14-029	333873.65	8846150.82	4118.77	457.5	360	-70.0
A14-030	332719.17	8845571.31	4259.26	340.8	180	-83.0
A14-031	334096.43	8846020.29	4073.05	463.3	200	-70.0
A14-032	332848.03	8845597.73	4227.27	336.7	215	-77.0
A14-033	332710.84	8845816.28	4246.85	356.3	200	-75.0
A15-034	333478.73	8846226.16	4207.82	435.6	360	-70.0
A15-035	333486.73	8845760.50	4135.06	385.7	180	-75.0
A15-036	333674.00	8845925.87	4112.73	425.8	180	-80.0

Hole ID	X (m)	Y (m)	Z (m)	Length (M)	Azimuth	Dip
A15-037	333627.98	8846254.00	4191.28	509.1	360	-60.0
A15-038	333653.34	8845724.41	4118.90	441.1	360	-90.0
A15-039	333467.31	8845359.65	4184.29	568.3	360	-75.0
A15-040	333658.64	8845520.81	4122.96	423.1	360	-75.0
A15-041	333169.31	8845489.67	4196.91	360.3	180	-75.0
A15-042	332623.47	8846002.78	4270.72	299.2	180	-85.0
A15-043	333282.37	8845496.62	4167.40	427.5	360	-85.0
A15-044	333148.45	8845352.54	4221.19	392.9	180	-80.0
A15-045	333566.82	8845447.30	4139.84	404.2	360	-65.0
A15-046	332925.35	8845515.00	4225.90	407.3	180	-60.0
A15-047	333771.65	8845805.27	4052.15	425.8	180	-63.0
A15-048	334084.65	8845764.39	3983.24	68.7	360	-85.0
A15-049	333485.56	8845759.16	4135.11	424.4	20	-70.0
A15-050	333963.80	8845995.68	4083.31	453.2	360	-80.0
A15-051	333501.10	8846070.98	4175.10	451.7	25	-70.0
A15-052	333669.56	8845462.07	4136.62	450.3	360	-80.0
A15-053	333669.81	8845461.98	4136.60	412.5	180	-80.0
A15-054	332627.51	8845824.91	4266.00	264.7	325	-45.0
A15-055	333767.88	8845407.45	4150.51	486.1	360	-70.0
A17-056	333046.99	8845063.46	4195.29	293.9	300	-75.0
A17-056A	333046.99	8845063.46	4195.29	376.4	300	-75.0
A17-057	333047.84	8845063.06	4195.24	477.0	300	-55.0
A17-058	332558.49	8845657.12	4292.51	302.1	40	-82.0
A17-059	332840.12	8845199.04	4202.59	248.9	120	-85.0
A17-060	333176.85	8845003.63	4212.72	358.4	300	-70.0
A17-061	333061.32	8844994.22	4185.36	326.9	290	-67.0
A17-062	333177.48	8845003.32	4213.51	317.0	300	-90.0
A17-063	333242.09	8845117.14	4223.28	416.6	310	-70.0
A17-064	333060.59	8844994.46	4185.23	369.1	290	-50.0
A17-065	333174.29	8845088.36	4218.45	366.3	300	-75.0
A17-066	333342.05	8845194.84	4207.77	371.6	310	-70.0
A17-067	333061.36	8844993.93	4185.23	302.8	120	-85.0
A17-068	333552.65	8845278.49	4181.89	419.7	310	-75.0
A17-069	333114.38	8845102.88	4204.89	374.3	300	-65.0
A17-070	333151.85	8845150.94	4223.53	367.8	310	-75.0
A17-071	333329.08	8845044.06	4203.08	383.3	310	-70.0
A17-072	333113.80	8845103.16	4204.70	445.9	300	-53.0
A17-073	334458.55	8846614.62	4152.27	710.0	210	-75.0
A17-074	332664.33	8845490.71	4249.57	429.6	15	-75.0
A17-075	333435.61	8845119.10	4191.05	395.3	310	-70.0
A17-076	333152.79	8845150.39	4223.23	420.7	310	-55.0
A17-077	332965.64	8845460.70	4225.57	416.2	130	-70.0
A17-078	333656.55	8845226.07	4168.03	477.2	310	-75.0
A17-079	332918.79	8845713.82	4219.44	322.6	310	-65.0
A17-080	332912.85	8845807.18	4222.56	355.4	310	-70.0
A17-081	334696.00	8846099.00	4150.79	506.8	190	-70.0
A17-082	333774.00	8847585.00	3922.08	67.2	290	-65.0
A17-083	332968.00	8845607.00	4216.18	317.6	310	-70.0
A17-084	333694.00	8847613.00	3937.55	123.1	300	-75.0

Hole ID	X (m)	Y (m)	Z (m)	Length (M)	Azimuth	Dip
A17-085	332903.00	8845938.00	4250.00	346.6	310	-70.0
A17-086	333693.00	8847613.00	3937.55	217.9	300	-50.0
A17-087	333005.00	8844940.00	4160.04	316.8	290	-72.0
A17-088	332689.00	8846884.00	4163.40	224.6	170	-65.0
A17-089	333003.00	8844943.00	4160.00	330.1	325	-60.0
A17-090	333099.00	8846807.00	4135.30	213.9	240	-60.0
A17-091	334043.00	8846140.00	4092.70	480.6	35	-70.0
A17-092	333101.00	8846805.00	4134.22	270.6	240	-45.0
A17-093	333551.00	8845146.00	4179.30	408.0	310	-75.0
A17-094	333678.00	8845009.00	4157.49	418.6	310	-80.0
A17-095	332840.00	8845199.00	4202.59	362.1	120	-75.0
A17-096	333174.00	8845088.00	4218.45	366.3	270	-65.0
A17-097	333331.00	8845046.00	4203.08	370.0	130	-85.0
A17-098	333172.00	8845090.00	4218.45	352.7	140	-80.0
A17-099	333435.00	8845122.00	4191.05	400.7	130	-85.0
A17-100	333810.00	8845256.00	4161.04	461.1	130	-85.0
A17-101	333346.00	8845194.00	4207.77	500.0	260	-75.0
A17-102	333385.00	8845285.00	4203.00	500.0	360	-90.0
DD52	332723.98	8845712.01	4245.49	196.6	310	-50.0
DD52B	332728.13	8845706.84	4243.32	318.8	360	-70.0
DD53	332746.46	8845817.26	4240.59	315.1	165	-60.0
DD66	332685.29	8845696.35	4252.40	230.6	165	-50.0
DD67	332594.47	8845669.39	4272.46	230.8	165	-50.0
DD68	332650.08	8845824.10	4259.62	176.4	165	-50.0
DD69	332552.94	8845802.37	4276.55	198.2	165	-50.0
DD70	332603.77	8845937.15	4263.98	243.3	165	-50.0
DD71	332510.63	8845908.95	4291.04	231.1	165	-50.0

TABLE 30-2 BOREHOLE ZINC ZONE WIREFRAME INTERSECTIONS AT AYAWILCA

Hole Id	From (m)	To (m)	Interval (m)	Zn (%)	Pb (%)	In (g/t)	Ag (g/t)	NSR ($/t)	ZnEq (%)	Domain	Area
A13-001	174.00	180.00	6.00	3.26	1.01	0.00	39.53	66.89	4.36	201	Central
A13-003	165.30	173.00	7.70	4.73	0.49	11.18	10.28	80.36	5.24	201	Central
A13-004	181.85	198.00	16.15	5.64	0.03	63.37	5.16	99.50	6.49	201	Central
A13-012A	172.00	176.00	4.00	8.02	0.01	0.00	8.05	125.26	8.17	201	Central
A15-035	168.15	182.00	13.85	4.59	1.45	5.15	41.37	91.43	5.96	201	Central
A12-008	195.50	220.00	24.50	7.65	0.02	58.87	4.65	129.33	8.43	208	Central
A12-008	224.00	232.00	8.00	5.34	0.02	104.36	5.98	102.44	6.68	2 Adjusted	Central
A13-001	222.00	238.00	16.00	4.43	0.01	118.97	4.09	90.54	5.90	2 Adjusted	Central
A13-002	248.00	276.00	28.00	3.57	0.04	21.39	4.21	60.00	3.91	2 Adjusted	Central
A13-012A	250.00	266.00	16.00	4.15	0.00	62.52	4.04	76.01	4.95	2 Adjusted	Central
A15-035	230.00	246.00	16.00	3.56	0.06	72.94	20.50	73.64	4.80	2 Adjusted	Central
A15-038	268.00	280.00	12.00	5.41	0.02	113.70	13.93	107.34	7.00	2 Adjusted	Central
A15-041	233.70	237.30	3.60	8.62	2.04	2.86	46.66	157.89	10.29	2 Adjusted	Central
A15-043	222.50	228.00	5.50	3.89	0.01	64.46	3.53	72.29	4.71	2 Adjusted	Central

Hole Id	From (m)	To (m)	Interval (m)	Zn (%)	Pb (%)	In (g/t)	Ag (g/t)	NSR ($/t)	ZnEq (%)	Domain	Area
A15-049	279.70	288.00	8.30	3.57	2.07	5.19	28.22	76.05	4.96	2 Adjusted	Central
A12-008	266.00	290.00	24.00	5.67	0.02	159.64	6.23	117.52	7.66	3 Adjusted	Central
A12-009	234.00	245.50	11.50	5.03	0.02	127.40	6.65	102.01	6.65	3 Adjusted	Central
A13-001	265.59	270.73	5.14	0.03	0.00	0.00	3.93	1.52	0.10	3 Adjusted	Central
A13-002	288.00	316.00	28.00	3.81	0.01	74.01	3.69	72.83	4.75	3 Adjusted	Central
A13-003	242.90	248.70	5.80	4.00	0.04	0.00	8.79	63.98	4.17	3 Adjusted	Central
A13-004	278.00	302.00	24.00	3.03	0.08	44.24	3.74	55.95	3.65	3 Adjusted	Central
A13-010	248.00	254.00	6.00	2.06	0.01	0.00	1.70	32.12	2.09	3 Adjusted	Central
A13-012A	282.00	292.00	10.00	4.73	0.13	20.03	14.20	80.80	5.27	3 Adjusted	Central
A15-035	288.00	296.00	8.00	3.53	0.04	5.74	7.93	57.57	3.75	3 Adjusted	Central
A15-038	295.00	303.30	8.30	4.50	0.02	34.07	5.18	76.68	5.00	3 Adjusted	Central
A15-039	320.00	333.00	13.00	5.13	0.17	74.23	10.79	96.01	6.26	3 Adjusted	Central
A15-041	268.10	273.40	5.30	4.35	0.45	3.28	8.99	72.51	4.73	3 Adjusted	Central
A15-043	236.00	244.00	8.00	3.61	0.01	73.65	6.00	70.32	4.58	3 Adjusted	Central
A15-049	305.80	309.80	4.00	3.52	1.91	1.23	29.66	73.97	4.82	3 Adjusted	Central
A15-052	308.00	324.70	16.70	4.67	0.03	90.45	4.69	89.37	5.83	3 Adjusted	Central
A12-008	294.00	302.00	8.00	3.44	0.02	65.00	14.05	68.39	4.46	4 Adjusted 2	Central
A13-002	322.00	328.00	6.00	3.34	0.11	28.61	4.64	58.31	3.80	4 Adjusted 2	Central
A13-004	320.00	332.00	12.00	3.74	0.01	45.30	4.70	66.86	4.36	4 Adjusted 2	Central
A14-027	338.50	348.00	9.50	4.14	0.12	37.68	6.31	72.73	4.74	4 Adjusted 2	Central
A15-039	342.30	350.00	7.70	3.05	0.03	46.62	5.73	56.91	3.71	4 Adjusted 2	Central
A15-053	346.00	360.70	14.70	5.99	0.02	102.87	11.90	113.74	7.41	4 Adjusted 2	Central
A12-008	318.90	322.80	3.90	6.93	0.01	45.22	3.82	115.54	7.53	5 Adjusted	Central
A13-015	329.20	340.00	10.80	5.15	0.01	94.81	5.94	97.73	6.37	5 Adjusted	Central
A13-012A	212.00	216.00	4.00	5.07	0.90	0.00	32.90	92.19	6.01	6 Adjusted	Central
A14-021	164.00	177.20	13.20	7.15	0.03	118.82	10.32	134.04	8.74	6 Adjusted	Central
A15-035	200.00	220.00	20.00	3.38	0.46	14.34	7.97	59.41	3.87	6 Adjusted	Central
A15-038	236.60	258.00	21.40	3.80	0.16	51.71	16.39	73.01	4.76	6 Adjusted	Central
A15-040	231.40	247.00	15.60	3.65	0.17	68.06	7.84	71.40	4.65	6 Adjusted	Central
A15-045	249.12	252.97	3.85	0.06	0.02	0.48	0.96	1.39	0.09	6 Adjusted	Central
A15-052	239.40	244.00	4.60	2.36	2.81	0.86	45.87	66.02	4.30	6 Adjusted	Central
A15-055	308.40	314.90	6.50	2.03	2.89	0.36	72.20	68.47	4.46	6 Adjusted	Central
A12-008	168.00	174.00	6.00	8.94	0.03	0.32	6.33	139.09	9.07	Central 8A	Central
A13-016	370.00	394.00	24.00	2.80	0.01	110.20	1.64	63.29	4.13	301	East
A13-017	372.10	388.00	15.90	3.61	0.24	24.66	13.16	64.85	4.23	301	East
A14-018	331.20	359.20	28.00	5.73	0.18	28.10	10.39	96.87	6.31	301	East
A14-024	318.00	358.10	40.10	4.09	0.42	105.36	33.96	93.46	6.09	301	East
A14-029	322.00	329.80	7.80	6.15	0.06	12.82	7.42	99.02	6.46	301	East
A14-018	375.10	412.00	36.90	6.09	0.44	14.50	9.53	101.31	6.60	302	East
A14-024	389.40	397.10	7.70	5.14	0.61	57.47	31.12	101.35	6.61	302	East
A14-029	400.00	414.00	14.00	6.40	0.01	10.50	3.79	101.15	6.59	302	East
A15-053	380.30	387.80	7.50	4.74	0.16	9.55	10.67	78.30	5.10	A South	South
A17-056	242.00	293.90	51.90	10.06	0.10	233.06	127.87	231.41	15.09	A South	South
A17-056A	245.90	296.00	50.10	1.75	0.06	16.67	3.60	31.19	2.03	A South	South

Hole Id	From (m)	To (m)	Interval (m)	Zn (%)	Pb (%)	In (g/t)	Ag (g/t)	NSR ($/t)	ZnEq (%)	Domain	Area
A17-057	265.75	279.30	13.55	22.26	2.66	296.67	111.02	441.20	28.76	A South	South
A17-060	298.00	323.40	25.40	3.62	0.18	44.47	11.15	67.65	4.41	A South	South
A17-063	302.20	349.90	47.70	11.30	0.01	312.49	18.02	234.52	15.29	A South	South
A17-065	307.30	332.00	24.70	3.78	0.01	51.42	5.19	68.70	4.48	A South	South
A17-066	345.00	350.00	5.00	11.28	0.06	270.40	37.48	232.20	15.14	A South	South
A17-068	377.70	395.00	17.30	2.13	0.06	38.47	40.98	51.03	3.33	A South	South
A17-069	271.40	300.70	29.30	10.36	0.06	278.49	16.99	214.01	13.95	A South	South
A17-070	317.50	356.80	39.30	7.10	0.07	99.83	12.95	130.81	8.53	A South	South
A17-071	327.20	350.00	22.80	8.40	0.83	17.38	35.14	146.58	9.56	A South	South
A17-072	294.50	306.00	11.50	2.92	2.25	0.03	780.92	269.48	17.57	A South	South
A17-075	359.00	379.80	20.80	5.01	0.04	43.74	10.80	87.89	5.73	A South	South
A17-076	368.00	373.70	5.70	2.43	1.89	0.55	54.68	63.76	4.16	A South	South
A17-078	400.10	404.40	4.30	7.75	0.06	57.24	4.13	130.67	8.52	A South	South
A17-089	241.00	250.18	9.18	7.78	0.03	60.06	17.79	135.14	8.81	A South	South
A17-093	384.10	391.00	6.90	4.27	0.59	20.93	72.75	92.54	6.03	A South	South
A17-096	304.80	356.00	51.20	8.09	0.10	124.37	13.53	150.76	9.83	A South	South
A17-056A	309.00	316.60	7.60	10.96	0.07	131.09	28.50	199.85	13.03	A South 2	South
A17-061	317.40	319.60	2.20	5.81	0.29	10.55	45.90	105.20	6.86	A South 2	South
A17-056	162.00	204.70	42.70	3.60	0.03	39.55	7.96	64.68	4.22	B South	South
A17-056A	163.28	205.39	42.11	0.00	0.00	0.00	0.00	0.00	0.00	B South	South
A17-057	158.40	197.70	39.30	9.27	0.20	171.51	21.96	180.23	11.75	B South	South
A17-060	262.40	277.80	15.40	6.46	0.01	279.04	11.10	152.38	9.93	B South	South
A17-061	184.00	198.80	14.80	11.67	0.48	72.72	56.32	210.27	13.71	B South	South
A17-065	266.40	293.00	26.60	3.57	0.01	45.66	3.70	64.04	4.17	B South	South
A17-069	230.50	235.80	5.30	2.26	0.01	34.22	10.06	43.61	2.84	B South	South
A17-096	250.68	287.00	36.32	9.21	0.03	138.22	9.37	168.88	11.01	B South	South
A17-056	227.10	233.70	6.60	10.79	0.01	142.79	9.59	193.87	12.64	C South	South
A17-056A	228.54	235.12	6.58	0.00	0.00	0.00	0.00	0.00	0.00	C South	South
A17-057	227.15	231.52	4.37	4.56	0.28	135.61	35.34	105.62	6.89	C South	South
A17-061	220.00	233.40	13.40	18.73	0.87	463.33	57.32	391.54	25.52	C South	South
A17-089	218.60	229.40	10.80	16.71	0.05	680.50	33.49	388.17	25.30	C South	South
A17-056	126.00	146.25	20.25	10.72	0.18	18.45	32.46	177.64	11.58	D South	South
A17-056A	127.87	147.47	19.60	0.00	0.00	0.00	0.00	0.00	0.00	D South	South
A17-057	141.70	146.00	4.30	9.33	0.04	63.71	33.54	163.89	10.68	D South	South
A17-061	122.70	138.10	15.40	3.35	0.19	20.66	25.53	63.17	4.12	D South	South
A17-089	100.00	104.00	4.00	2.08	0.01	9.30	7.77	35.74	2.33	D South	South
A13-005	130.30	184.00	53.70	9.45	0.51	50.10	29.66	165.13	10.76	101	West
A13-006	170.00	174.00	4.00	4.92	0.12	47.75	18.40	89.77	5.85	101	West
A14-019	184.00	196.00	12.00	5.99	0.04	166.85	12.27	125.48	8.18	101	West
A14-020	179.85	184.00	4.15	24.79	1.04	205.12	57.95	439.24	28.63	101	West
A14-022	196.00	206.00	10.00	4.71	0.73	34.12	16.36	87.30	5.69	101	West
DD52B	130.00	134.00	4.00	0.00	0.00	0.00	0.00	0.00	0.00	101	West
DD53	196.00	200.00	4.00	2.55	3.00	0.00	75.29	77.90	5.08	101	West
A13-005	188.00	198.00	10.00	3.44	0.01	47.98	7.76	63.56	4.14	102	West

Hole Id	From (m)	To (m)	Interval (m)	Zn (%)	Pb (%)	In (g/t)	Ag (g/t)	NSR ($/t)	ZnEq (%)	Domain	Area
A13-006	212.00	222.00	10.00	3.75	0.01	4.59	6.16	60.08	3.92	102	West
A13-008	248.00	254.00	6.00	3.05	1.62	0.00	42.80	68.31	4.45	102	West
A14-019	216.00	234.00	18.00	5.59	0.02	80.66	10.09	103.12	6.72	102	West
A14-020	200.00	212.00	12.00	4.29	0.29	0.47	37.14	77.70	5.07	102	West
A14-022	211.21	248.00	36.79	6.92	0.02	67.52	9.61	121.02	7.89	102	West
A14-026	213.00	230.00	17.00	2.64	1.50	0.39	40.72	60.79	3.96	102	West
A14-032	204.00	209.30	5.30	6.59	0.91	5.88	33.34	116.75	7.61	102	West
DD53	226.00	246.00	20.00	3.99	0.28	2.73	7.93	65.56	4.27	102	West
A12-004A	264.00	278.00	14.00	9.58	0.03	172.41	11.91	181.39	11.82	103	West
A13-005	234.00	298.00	64.00	4.95	0.11	68.64	11.74	92.13	6.01	103	West
A13-006	238.00	322.00	84.00	4.09	0.06	41.27	6.54	72.30	4.71	103	West
A13-008	314.00	320.00	6.00	3.88	0.01	0.00	5.53	61.07	3.98	103	West
A14-019	248.00	328.00	80.00	4.00	0.04	17.05	6.71	66.49	4.33	103	West
A14-020	274.00	310.00	36.00	4.58	0.09	2.73	27.94	78.85	5.14	103	West
A14-022	276.00	318.50	42.50	5.66	0.30	104.11	14.21	111.25	7.25	103	West
A14-023	288.00	306.30	18.30	3.83	0.02	35.29	3.36	66.13	4.31	103	West
A14-026	288.00	303.80	15.80	11.27	0.07	206.71	17.72	215.30	14.04	103	West
A14-032	257.00	269.20	12.20	3.06	0.01	22.85	2.89	51.90	3.38	103	West
A14-033	270.90	282.00	11.10	11.37	0.10	6.60	9.99	178.92	11.66	103	West
A17-079	273.25	309.50	36.25	5.22	0.16	64.79	9.65	95.33	6.21	103	West
A17-080	291.30	306.50	15.20	5.95	0.04	184.38	6.83	126.55	8.25	103	West
A17-083	268.00	278.20	10.20	3.00	0.67	2.86	14.80	54.65	3.56	103	West
A17-085	303.10	308.00	4.90	7.11	0.11	9.63	4.13	112.59	7.34	103	West
DD52B	272.00	288.00	16.00	5.94	0.12	54.29	8.09	103.81	6.77	103	West
DD53	260.00	315.10	55.10	2.56	0.03	53.68	5.41	50.58	3.30	103	West
A13-005	316.00	343.20	27.20	7.49	0.05	319.95	22.19	178.79	11.65	104	West
A14-033	314.30	345.10	30.80	4.25	0.01	45.49	5.10	74.82	4.88	104	West

TABLE 30-3 BOREHOLE TIN ZONE WIREFRAME INTERSECTIONS AT AYAWILCA

Hole Id	From (m)	To (m)	Interval (m)	Sn (%)	Cu (%)	Ag (g/t)	NSR ($/t)	SnEq (%)	Domain
A13-001	308.00	326.00	18.00	0.66	0.57	11.86	134.56	0.82	1001
A13-004	344.00	358.00	14.00	0.33	0.90	39.66	100.96	0.61	1001
A13-010	314.00	319.50	5.50	0.39	0.25	3.62	75.13	0.46	1001
A13-011	328.00	344.20	16.20	1.03	0.67	21.83	202.13	1.23	1001
A13-012A	326.00	354.00	28.00	0.58	0.17	6.40	103.95	0.63	1001
A14-027	354.00	358.00	4.00	0.33	0.14	1.22	60.22	0.37	1001
A15-035	341.70	352.00	10.30	0.44	0.16	1.24	79.12	0.48	1001
A15-039	370.00	410.00	40.00	0.59	0.21	4.35	106.64	0.65	1001
A15-040	328.00	378.50	50.50	1.23	0.16	15.07	212.83	1.29	1001
A15-041	334.00	340.00	6.00	0.21	0.20	6.72	44.36	0.27	1001
A15-043	312.00	326.00	14.00	0.82	0.44	10.42	155.31	0.94	1001
A15-044	350.55	365.40	14.85	1.10	0.36	25.53	202.26	1.23	1001

A15-045	381.80	384.50	2.70	0.05	0.00	4.53	9.45	0.06	1001
A15-052	388.50	392.00	3.50	0.42	0.06	7.57	73.54	0.45	1001
A15-055	420.65	424.60	3.95	2.02	0.23	6.93	343.41	2.09	1001
A17-063	369.00	374.50	5.50	1.22	0.21	16.46	213.56	1.30	1001
A17-065	348.00	352.00	4.00	0.30	0.07	6.45	53.90	0.33	1001
A17-070	356.80	364.00	7.20	0.78	0.25	32.83	147.19	0.89	1001
A14-028	476.00	484.00	8.00	0.33	0.23	15.35	67.63	0.41	1003
A14-021	308.90	318.00	9.10	0.42	0.06	21.80	77.39	0.47	1005
A15-036	360.00	373.50	13.50	0.35	0.13	9.26	65.28	0.40	1005
A15-049	395.60	403.40	7.80	1.05	0.30	13.76	188.46	1.15	1005
A13-010	272.00	282.00	10.00	0.51	0.07	2.72	87.44	0.53	Tin 6
A15-043	286.00	302.00	16.00	0.50	0.09	0.84	86.09	0.52	Tin 6
A17-056	214.00	225.00	11.00	0.67	0.03	5.33	112.87	0.69	Tin 7
A17-057	198.80	223.74	24.94	0.35	0.03	10.17	61.53	0.37	Tin 7
A17-069	206.00	230.50	24.50	0.45	0.04	6.26	77.33	0.47	Tin 7
A17-063	275.00	286.00	11.00	1.80	0.04	5.54	299.25	1.82	Tin 8
A17-070	285.00	301.70	16.70	0.50	0.04	9.04	86.30	0.52	Tin 8
A14-028	462.79	465.81	3.02	0.38	0.21	9.25	73.41	0.45	Tin2
A14-028	497.71	502.79	5.08	0.78	0.14	11.13	136.93	0.83	Tin4

TABLE 30-4 BOREHOLES USED TO ESTIMATE COLQUIPUCRO RESOURCES

Hole ID	X (m)	Y (m)	Z (m)	Length (m)	Azimuth	Dip
CDD1	332594.59	8847709.06	4287.18	151.94	180	-50
CDD10	332896.72	8847994.27	4327.50	262.20	180	-50
CDD11	332690.36	8847843.52	4355.76	185.20	180	-55
CDD12	332593.18	8847911.46	4341.80	216.70	180	-60
CDD13	332695.62	8847896.84	4348.86	172.00	180	-50
CDD14	332895.31	8848074.86	4313.77	214.50	165	-70
CDD15	332783.48	8847750.12	4307.84	250.00	180	-60
CDD16	332795.65	8847925.92	4342.50	194.70	180	-50
CDD17	332795.40	8847958.30	4335.46	152.80	180	-50
CDD18	332795.52	8847961.71	4335.00	124.50	360	-60
CDD19	332695.19	8847929.72	4340.29	128.90	180	-60
CDD2	332598.01	8847764.81	4297.49	159.70	180	-50
CDD20	332692.26	8847985.42	4334.61	100.70	180	-60
CDD21	332594.86	8847972.79	4368.49	152.60	180	-60
CDD22	332594.86	8847972.79	4368.49	210.00	360	-60
CDD23	332594.86	8847972.79	4368.49	221.90	360	-90
CDD24	332690.56	8847986.43	4334.14	144.00	360	-50
CDD25	332698.87	8847926.12	4340.13	173.60	360	-90
CDD26	332742.22	8847975.10	4328.96	222.80	180	-55
CDD27	332697.65	8847856.09	4360.58	212.70	180	-58
CDD28	332693.76	8847798.93	4335.70	232.90	180	-53
CDD29	332632.51	8847972.76	4366.10	226.10	180	-55

Hole ID	X (m)	Y (m)	Z (m)	Length (m)	Azimuth	Dip
CDD3	332591.90	8847828.77	4308.83	213.20	180	-50
CDD30	332632.41	8847972.94	4367.13	203.70	360	-90
CDD31	332630.66	8847976.50	4369.42	211.90	360	-55
CDD32	332530.62	8847852.42	4305.31	185.60	360	-55
CDD33	332743.92	8847924.67	4339.92	224.60	180	-55
CDD34	332796.24	8847875.47	4366.37	242.60	180	-62
CDD35	332579.76	8847869.78	4312.50	188.40	180	-53
CDD36	332497.60	8847999.70	4327.50	201.00	360	-48.40
CDD37	332484.35	8848042.87	4321.47	114.00	360	-41.90
CDD38	332540.81	8847975.16	4336.50	114.80	360	-51.30
CDD39	332743.77	8847873.41	4360.79	147.40	180	-54.20
CDD4	332696.70	8847746.66	4318.27	187.00	180	-55
CDD40	332743.14	8847836.07	4363.69	232.80	180	-50.50
CDD41	332644.51	8847877.50	4350.10	141.50	360	-60.10
CDD42	332645.32	8847876.99	4351.19	146.00	180	-49.80
CDD43	332737.93	8847742.70	4310.48	147.90	180	-50.20
CDD44	332636.67	8847773.14	4314.75	179.40	180	-48.50
CDD45	332646.93	8847709.01	4304.89	153.70	180	-49
CDD46	333690.61	8847229.12	4081.28	304.40	360	-58.70
CDD5	332789.94	8847542.38	4167.18	127.60	360	-50
CDD6	332692.32	8847660.38	4276.09	121.00	180	-60
CDD7	332792.83	8847681.88	4270.36	135.00	180	-50
CDD8	332896.50	8847741.19	4291.53	100.40	180	-50
CDD9	332796.24	8847875.47	4366.37	173.90	180	-50
DDH-1	333194.00	8847340.00	4137.08	274.50	360	-60
DDH-2	333194.00	8847352.00	4138.89	110.70	315	-60
DDH-3	332706.00	8847459.00	4169.75	144.50	360	-70
DDH-4	332706.00	8847459.00	4169.75	164.60	360	-45

TABLE 30-5 BOREHOLE WIREFRAME INTERSECTIONS AT COLQUIPUCRO

Hole-Id	From (m)	To (m)	Length (m)	Ag (g/t)	Domain Id	Hole-Id	From (m)	To (m)	Length (m)	Ag (g/t)	Domain Id
CDD1	2.00	4.00	2.00	76.00	106	CDD32	56.00	64.00	8.00	34.02	101
CDD1	4.00	24.00	20.00	29.62	50	CDD33	28.00	50.00	22.00	27.80	50
CDD1	24.00	32.00	8.00	75.52	104	CDD33	50.00	54.00	4.00	90.44	101
CDD1	32.00	38.00	6.00	15.50	50	CDD33	54.00	104.00	50.00	9.94	50
CDD1	38.00	40.00	2.00	37.90	102	CDD33	186.20	189.40	3.20	19.00	51
CDD1	40.00	70.00	30.00	12.00	50	CDD34	30.00	92.00	62.00	21.21	50
CDD1	70.00	72.00	2.00	61.20	107	CDD34	92.00	98.00	6.00	80.23	101
CDD1	72.00	82.00	10.00	16.16	50	CDD34	98.00	159.01	61.01	18.09	50
CDD1	82.00	84.00	2.00	60.80	108	CDD35	8.41	59.04	50.63	7.34	50
CDD1	84.00	102.00	18.00	19.52	50	CDD35	59.04	66.67	7.64	0.71	101
CDD1	102.00	106.00	4.00	145.69	109	CDD35	66.67	66.74	0.07	1.40	50
CDD1	106.00	126.00	20.00	11.21	50	CDD36	42.00	44.00	2.00	24.90	101

Hole-Id	From (m)	To (m)	Length (m)	Ag (g/t)	Domain Id	Hole-Id	From (m)	To (m)	Length (m)	Ag (g/t)	Domain Id
CDD1	126.00	130.00	4.00	153.99	101	CDD36	44.00	46.00	2.00	13.40	50
CDD10	120.00	139.28	19.28	30.07	50	CDD37	22.00	26.00	4.00	143.50	101
CDD11	0.00	2.00	2.00	37.53	50	CDD37	26.00	28.00	2.00	29.00	50
CDD11	2.00	44.00	42.00	99.60	110	CDD38	38.00	54.00	16.00	24.86	50
CDD11	44.00	94.00	50.00	23.88	50	CDD38	54.00	58.00	4.00	33.70	101
CDD11	94.00	110.00	16.00	91.15	105	CDD38	58.00	80.00	22.00	12.87	50
CDD11	110.00	130.00	20.00	28.41	50	CDD39	10.00	54.00	44.00	19.33	50
CDD11	130.00	134.00	4.00	107.75	103	CDD39	54.00	64.00	10.00	40.92	110
CDD11	134.00	138.00	4.00	22.86	50	CDD39	64.00	102.00	38.00	20.25	50
CDD11	138.00	146.00	8.00	281.74	101	CDD39	102.00	106.00	4.00	353.98	105
CDD12	20.00	82.00	62.00	27.42	50	CDD39	106.00	126.00	20.00	48.20	50
CDD12	82.00	92.00	10.00	123.24	101	CDD39	126.00	134.50	8.50	177.01	101
CDD13	2.00	30.00	28.00	28.39	50	CDD39	134.50	138.00	3.50	10.75	50
CDD13	30.00	86.00	56.00	141.12	110	CDD4	0.00	10.00	10.00	24.94	50
CDD13	86.00	97.52	11.52	18.52	50	CDD4	10.00	28.00	18.00	134.73	105
CDD13	97.52	103.29	5.77	5.08	105	CDD4	28.00	34.00	6.00	38.47	50
CDD13	103.29	104.00	0.71	11.43	50	CDD4	34.00	36.00	2.00	65.20	106
CDD13	104.00	110.00	6.00	161.33	101	CDD4	36.00	46.00	10.00	24.84	50
CDD13	110.00	118.00	8.00	30.55	50	CDD4	46.00	48.00	2.00	76.80	103
CDD14	2.00	88.00	86.00	21.03	50	CDD4	48.00	80.00	32.00	15.25	50
CDD15	48.00	100.00	52.00	12.13	50	CDD4	80.00	82.00	2.00	17.80	104
CDD15	100.00	104.00	4.00	43.90	102	CDD4	82.00	96.00	14.00	5.41	50
CDD15	104.00	114.00	10.00	21.96	50	CDD4	96.00	102.00	6.00	151.33	102
CDD15	114.00	120.00	6.00	42.93	101	CDD4	102.00	110.00	8.00	28.20	50
CDD15	120.00	136.00	16.00	18.47	50	CDD4	110.00	116.00	6.00	173.66	107
CDD16	50.00	60.00	10.00	19.12	50	CDD4	116.00	120.00	4.00	27.85	50
CDD16	60.00	66.00	6.00	66.83	101	CDD4	120.00	128.00	8.00	260.60	101
CDD16	66.00	154.00	88.00	22.02	50	CDD4	156.00	170.00	14.00	32.03	51
CDD17	62.00	152.80	90.80	18.08	50	CDD40	1.20	40.00	38.80	30.58	50
CDD18	78.00	124.50	46.50	18.93	50	CDD40	40.00	64.00	24.00	96.95	110
CDD19	4.00	38.00	34.00	21.38	50	CDD40	64.00	88.00	24.00	32.12	50
CDD19	38.00	68.00	30.00	179.13	101	CDD40	88.00	90.00	2.00	68.99	105
CDD19	68.00	126.00	58.00	19.86	50	CDD40	90.00	120.00	30.00	10.53	50
CDD2	26.00	66.00	40.00	11.76	50	CDD40	120.00	124.00	4.00	22.20	103
CDD2	66.00	76.00	10.00	101.40	104	CDD40	124.00	158.00	34.00	12.87	50
CDD2	76.00	88.00	12.00	38.53	50	CDD40	158.00	160.00	2.00	61.00	104
CDD2	88.00	92.00	4.00	80.90	102	CDD40	160.00	190.00	30.00	27.48	50
CDD2	92.00	112.00	20.00	14.05	50	CDD40	190.00	194.00	4.00	71.00	102
CDD2	112.00	116.00	4.00	41.80	101	CDD40	194.00	202.00	8.00	28.50	50
CDD2	116.00	124.00	8.00	8.55	50	CDD40	202.00	212.00	10.00	137.79	101
CDD20	22.00	34.00	12.00	33.45	50	CDD40	212.00	216.00	4.00	44.50	50
CDD20	34.00	38.20	4.20	41.96	101	CDD41	6.00	12.00	6.00	38.90	50
CDD20	38.20	100.70	62.50	25.13	50	CDD41	12.00	44.00	32.00	105.94	111
CDD21	14.00	28.00	14.00	50.07	50	CDD41	44.00	56.00	12.00	22.74	50

Hole-Id	From (m)	To (m)	Length (m)	Ag (g/t)	Domain Id	Hole-Id	From (m)	To (m)	Length (m)	Ag (g/t)	Domain Id
CDD21	28.00	78.00	50.00	111.12	111	CDD41	56.00	78.00	22.00	146.41	101
CDD21	78.00	102.00	24.00	46.27	50	CDD41	78.00	106.00	28.00	23.12	50
CDD21	102.00	106.00	4.00	116.85	101	CDD42	8.00	30.00	22.00	20.26	50
CDD21	106.00	124.00	18.00	24.22	50	CDD42	30.00	66.00	36.00	83.93	110
CDD22	12.00	14.00	2.00	22.21	50	CDD42	66.00	78.00	12.00	35.17	50
CDD22	14.00	68.00	54.00	82.22	111	CDD42	78.00	84.00	6.00	89.00	105
CDD22	68.00	89.60	21.60	43.05	50	CDD42	84.00	92.00	8.00	29.68	50
CDD22	89.60	96.00	6.40	210.37	101	CDD42	92.00	96.00	4.00	40.00	101
CDD22	96.00	98.00	2.00	20.70	50	CDD43	18.00	28.00	10.00	12.50	50
CDD23	12.00	18.00	6.00	33.00	50	CDD43	28.00	32.00	4.00	46.00	103
CDD23	18.00	70.00	52.00	118.50	111	CDD43	32.00	70.00	38.00	10.86	50
CDD23	70.00	82.00	12.00	31.10	50	CDD43	70.00	72.00	2.00	92.99	104
CDD23	82.00	92.00	10.00	165.04	101	CDD43	72.00	86.00	14.00	5.94	50
CDD24	30.00	34.00	4.00	25.65	50	CDD43	86.00	88.00	2.00	59.00	102
CDD24	34.00	50.00	16.00	100.46	101	CDD43	88.00	104.00	16.00	16.71	50
CDD24	50.00	70.00	20.00	20.73	50	CDD43	104.00	106.00	2.00	86.00	107
CDD25	1.70	48.00	46.30	27.92	50	CDD43	106.00	120.70	14.70	35.64	50
CDD25	48.00	50.00	2.00	135.00	101	CDD43	120.70	138.15	17.45	226.64	101
CDD25	50.00	114.00	64.00	28.23	50	CDD43	138.15	142.90	4.75	19.45	50
CDD25	130.00	144.00	14.00	21.34	51	CDD44	0.50	10.00	9.50	13.54	50
CDD26	20.00	24.00	4.00	13.95	50	CDD44	10.00	26.00	16.00	77.97	105
CDD26	24.00	32.50	8.50	176.98	101	CDD44	26.00	46.00	20.00	28.10	50
CDD26	32.50	162.00	129.50	27.76	50	CDD44	46.00	52.00	6.00	81.10	106
CDD27	12.00	14.00	2.00	38.11	50	CDD44	52.00	68.00	16.00	32.57	50
CDD27	14.00	72.00	58.00	29.74	110	CDD44	68.00	74.00	6.00	153.99	103
CDD27	72.00	96.00	24.00	11.13	50	CDD44	74.00	90.00	16.00	17.24	50
CDD27	96.00	104.00	8.00	88.15	105	CDD44	90.00	94.00	4.00	55.50	104
CDD27	104.00	118.00	14.00	20.90	50	CDD44	94.00	116.00	22.00	20.06	50
CDD27	118.00	132.00	14.00	170.68	101	CDD44	116.00	120.00	4.00	88.49	102
CDD27	132.00	136.70	4.70	66.08	50	CDD44	120.00	122.00	2.00	15.28	50
CDD27	195.75	208.00	12.25	17.76	51	CDD44	122.00	128.10	6.10	279.76	101
CDD28	16.64	24.00	7.36	16.55	50	CDD44	128.10	167.02	38.92	28.80	50
CDD28	24.00	28.00	4.00	117.50	110	CDD45	4.00	6.00	2.00	72.00	106
CDD28	28.00	48.00	20.00	22.19	50	CDD45	6.00	16.00	10.00	25.90	50
CDD28	48.00	58.00	10.00	61.70	105	CDD45	16.00	30.00	14.00	104.82	103
CDD28	58.00	94.00	36.00	33.68	50	CDD45	30.00	40.00	10.00	48.81	50
CDD28	94.00	106.00	12.00	49.17	103	CDD45	40.00	59.00	19.00	133.73	104
CDD28	106.00	122.00	16.00	16.44	50	CDD45	59.00	68.00	9.00	23.83	50
CDD28	122.00	128.00	6.00	39.71	104	CDD45	68.00	70.00	2.00	81.99	102
CDD28	128.00	132.00	4.00	359.98	101	CDD45	70.00	78.00	8.00	19.53	50
CDD28	174.00	196.00	22.00	41.83	51	CDD45	78.00	86.00	8.00	118.50	107
CDD29	0.00	42.00	40.60	30.79	50	CDD45	86.00	92.00	6.00	19.74	50
CDD29	42.00	86.00	44.00	104.34	111	CDD45	92.00	96.20	4.20	105.70	108
CDD29	86.00	104.00	18.00	31.83	50	CDD45	96.20	114.00	17.80	31.06	50

Hole-Id	From (m)	To (m)	Length (m)	Ag (g/t)	Domain Id
CDD29	104.00	112.00	8.00	173.52	101
CDD29	112.00	124.00	12.00	29.62	50
CDD29	198.00	206.00	8.00	21.90	51
CDD3	2.00	18.00	16.00	35.26	50
CDD3	18.00	24.00	6.00	65.00	105
CDD3	24.00	66.00	42.00	16.32	50
CDD3	66.00	70.00	4.00	36.20	101
CDD3	70.00	78.00	8.00	21.60	50
CDD3	162.00	184.00	22.00	62.48	51
CDD30	0.00	38.00	38.00	53.22	50
CDD30	38.00	82.00	44.00	101.28	111
CDD30	82.00	86.00	4.00	31.20	50
CDD30	86.00	106.00	20.00	157.39	101
CDD31	2.00	30.00	28.00	36.81	50
CDD31	30.00	50.00	20.00	79.92	111
CDD31	50.00	58.00	8.00	41.45	50
CDD31	58.00	70.50	12.50	65.90	101
CDD31	70.50	80.00	9.50	10.52	50
CDD45	114.00	116.00	2.00	177.99	109
CDD45	116.00	130.00	14.00	24.30	50
CDD45	130.00	140.00	10.00	132.34	101
CDD6	2.00	8.00	6.00	91.06	104
CDD6	8.00	14.00	6.00	26.60	50
CDD6	14.00	22.00	8.00	66.95	102
CDD6	22.00	28.00	6.00	38.80	50
CDD6	28.00	38.00	10.00	139.64	107
CDD6	38.00	44.00	6.00	97.93	50
CDD6	44.00	52.00	8.00	139.20	108
CDD6	52.00	60.00	8.00	44.45	50
CDD6	60.00	66.00	6.00	43.80	101
CDD6	114.00	118.00	4.00	113.80	51
CDD7	80.00	86.00	6.00	145.43	101
CDD9	42.00	160.00	118.00	16.93	50
CDD9	160.00	162.00	2.00	85.00	101
CDD9	162.00	173.90	11.85	11.64	50