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# Technical Report

## **Kostilkovo Gold Project NI 43-101** St Charles Resources Inc.

### **Eastern Rhodope, Bulgaria**

In accordance with the requirements of National Instrument 43-101 "Standards of Disclosure for Mineral Projects" of the Canadian Securities Administrators

#### Qualified Persons:

MJ Burnett, CGeol (UK), EurGeol (Europe)  
PG Greenhill, FAusIMM (CP)

AMC Project 722015

Effective date 8 September 2022

## 1 Summary

### 1.1 Introduction

This Technical Report on the Kostilkovo Gold Project (Project), Bulgaria, has been prepared by AMC Mining Consultants (Canada) Ltd. (AMC) of Vancouver, Canada on behalf of St Charles Resources Inc. (St Charles) of Toronto, Ontario. It has been prepared in accordance with the disclosure requirements of National Instrument 43-101 Standards of Disclosure for Mineral Projects (NI 43-101), to disclose relevant information about the Project.

The Technical Report is required to be filed with the TSX Venture Exchange (TSX.V) in connection with a proposed Qualifying Transaction of St Charles.

St Charles, a Capital Pool Company (CPC) as defined under the policies of the TSX.V, entered into a letter of intent with Eastern Resources OOD (Eastern), in respect of a proposed business combination transaction pursuant to which St Charles shall acquire all of the issued and outstanding securities of Eastern. Eastern is a private gold exploration company actively exploring for gold in Bulgaria. The Kostilkovo Gold Project is part of the larger Chukata exploration license (Property) which is 100% owned by Eastern. This Technical Report discloses information on the Property.

Eastern has been engaged in exploration on the Property for economically viable gold deposits within a low sulphidation epithermal system, hosted, primarily, in sedimentary rocks of the Krumovgrad Group.

### 1.2 Property description and ownership

The Project is located 270 kilometres (km) south-east of the capital city of Bulgaria, Sofia, close to the border with Greece, in the Municipality of Ivailovgrad within the Haskovo Region. The town of Ivailovgrad is the regional center, located 13 km north-east of the Kostilkovo Gold Project.

Eastern applied for the Chukata exploration license in November 2014, with final approval being granted on 23 April 2019, as per Decision No. 480/27.04.2018. The Property covers an area of 66.18 square kilometres (km<sup>2</sup>), with the Project being located in the southwestern area of the Property, covering an area of approximately 15 km<sup>2</sup>. The Property is 100% owned by Eastern, and the initial exploration license agreement was valid until 2022. An extension agreement, valid from 27 April 2022, allows Eastern to explore the Property for an additional 2-year period.

Qualified Person (QP), Mark Burnett conducted a two-day site visit of the Property in May 2022.

### 1.3 Geology and mineralization

The Property is located within the Eastern Rhodope metallogenic province of the Western Tethyan magmatic belt, which underwent extension and metamorphic core complex formation within a back-arc environment, followed by normal faulting, basin subsidence, and voluminous calc-alkaline to shoshonitic andesitic to rhyolitic magmatism during the Maastrichtian-Oligocene.

The known gold deposits and occurrences in the region are located in sedimentary rocks, spatially associated with detachment faulting and half graben formation, and these Eocene age paleogeothermal systems represent the oldest known Tertiary mineralization event i.e., pre-volcanism.

In situ evidence of a paleogeothermal system on the Property has been identified through the presence of abundant quartz-adularia-illite vein float material occurring within mapped upflow zones and associated with minor amounts of gold mineralization.

## 1.4 Exploration status

Exploration on the Property has focused on the Project area, which had been demonstrated from the work of previous operators to be prospective, and specifically within six principal prospect areas. Activities by Eastern have included the following:

- Compilation and assessment of historical exploration data.
- Handheld radiometric surveys.
- Limited 1:25,000 mapping and prospecting of the Property, and 1:5,000 scale geological mapping of the Project area.
- Geological prospecting, including gold panning and rock / float sampling.
- Excavation and sampling of 24 trenches, for a total length of 1,161 metres (m), and 42 assays.
- Drilling of 19 diamond drillholes for a total of 2,331 m and 126 assays.

Assaying has been conducted through the SGS Bor laboratory in Serbia, primarily focused on gold by fire assay, supported by Inductively Coupled Plasma Mass Spectrometry (ICP -MS) assaying of suites of additional elements. Sample preparation and assaying have been accompanied by quality assurance and quality control (QA/QC) procedures, using certified reference standards, field duplicates and an umpire laboratory. The QP has reviewed the sampling and QA/QC procedures and considers them to be of good industry standard.

Eastern has conducted a first pass investigation of the leaching behaviour of selected quartz-chalcedony float material spatially across one prospect area. All samples were ground to P<sub>80</sub> 75 microns (µm) then subjected to a 500 gram (g), agitated CN bottle roll with pH 10 and excess NaCN. Solution samples were assayed for Au and Ag after 2, 6, 12, 24, and 48 hours.

The initial program was designed to ensure maximum recoveries of Au and Ag. Gold recoveries were >92% after 24 hours and Ag recoveries were >93% for five of the seven samples tested. The high gold recoveries support an initial assessment that the samples tested are not refractory or include only minor quantities of refractory material.

## 1.5 Conclusions and recommendations

Through a detailed analysis of historical data as well as via an extensive mapping and prospecting program, Eastern has established the presence of a large (10 km<sup>2</sup>) low-sulphidation epithermal system on the Project, with multiple upflow zones containing quartz-adularia-illite vein material identified. The Property has not yet been fully explored and it is Eastern's opinion that additional potential for low-sulphidation epithermal systems exist on the Property.

Initial metallurgical test work has demonstrated the presence of gold bearing material that has free-milling characteristics.

It is recommended that drilling be undertaken on the Project to identify the location, thickness, and presence of vein systems in the Project area.

The QP makes the following exploration recommendations for the next year of exploration on the Kostilkovo Gold Project which is located on the Chukata Property:

- To initially drill test beneath the mapped upflow zones located within the Izvorite and Runkite prospect areas with approximately 8 diamond drillholes for a total of 1,500 m.

The cost of the exploration program is estimated to be C\$379,000.

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Abbreviations and units of measure

Abbreviation / Technical term	Description
%	Percentage
°C	Degrees Celsius
µm	Micron
3D	Three dimensional
AAS	Atomic Absorption Spectrometry
Adularia	A feldspar mineral and potassium aluminosilicate (KAISi3O8). It commonly forms colourless, glassy, prismatic, twinned crystals in low-temperature veins of felsic plutonic rocks and in cavities in crystalline schists.
Ag	Silver
AMC	AMC Mining Consultants (Canada) Ltd.
Anatexis	The process of melting or partial melting of pre-existing solid rocks within the Earth’s crust
Aqua Regia	An acidic, corrosive, and oxidative mixture of three parts concentrated hydrochloric acid (HCl) and one part concentrated nitric acid (HNO3)
As	Arsenic
Asia Gold	Asia Gold Corp
Au	Gold
BMM	Balkan Mineral and Mining
C\$	Canadian Dollars
Calcite	CaCO <sub>3</sub>
Cambridge	Cambridge Mineral Resources plc
CGeol	Chartered Geologist
Chalcedony	A cryptocrystalline form of silica
Chlorite	A group of phyllosilicate minerals common in low-grade metamorphic rocks and in altered igneous rocks
COG	Cut-off grade
CP	Chartered Professional
CPC	Capital Pool Company
CRM	Certified Reference Material
Cryptocrystalline	A crystalline structure visible only when magnified
CSXP	Classic Breccio-Conglomerate Unit
DD	Diamond Core Drilling
Deciduous	Trees and shrubs that seasonally shed leaves
Dolomite	CaMg(CO <sub>3</sub> ) <sub>2</sub> .
DPM	Dundee Precious Minerals Inc.
Druzy	Druzy is a small geode formation with many crystal points shooting out of it representing the unity of the collective
DTM	Digital terrain map
Eastern	Eastern Resources Ltd. / Eastern Resources OOD (OOD is the Bulgarian for Ltd.)
EL	Exploration License

<b>Abbreviation / Technical term</b>	<b>Description</b>
Electrum	Electrum Ltd
Epidote	A calcium aluminium iron sorosilicate mineral
Epithermal	Deposited from warm waters at rather shallow depth under conditions in the lower ranges of temperature and pressure
Euro (€)	The official currency of 19 out of the 27 member states of the European Union.
FAusIMM	Fellow of the Australasian Institute of Mining and Metallurgy
g	Gram
g/t	Grams per tonne
GC	Grade control
Gneiss	A metamorphic rock with a banded or foliated structure, typically coarse-grained and consisting mainly of feldspar, quartz, and mica
Goldfields	Goldfields Limited
Gorubso	Gorubso-Kardzhali AD
GPS	Global positioning system
Graben	A valley with a distinct escarpment on each side caused by the displacement of a block of land downward
Granite	A coarse-grained (intrusive igneous rock composed mostly of quartz, alkali feldspar, and plagioclase
GSL	Geological Society of London
Hereward	Hereward Ventures plc
Hydrothermal	Of or relating to hot water
Illite	A group of non-expanding clay minerals.
IMWF	Integrated Mine Waste Facility
Ivanhoe	Ivanhoe Mines
K	Potassium
kg	Kilogram
km	Kilometre
km <sup>2</sup>	Square kilometres
koz	Thousand ounces
LDL	Lower detection limit
lev	The currency of Bulgaria
LSXP	Lower Breccio-Conglomerate Unit
m	Metre
mm	Millimetre
Migmatite	A metamorphic rock formed by anatexis that is generally heterogeneous and preserves evidence of partial melting at the microscopic to macroscopic scale
Moz	Million ounces
MPRD%	Mean paired relative difference percent
Mt	Million tonnes
Natura 2000	A network of core breeding and resting sites for rare and threatened species
oz	Ounce
Pb	Lead
Phytogeographic	Taxonomic groups of plants
Polymictic	Applied to a conglomerate which contains clasts of many different rock types.
ppb	Parts per billion
ppm	Parts per million

<b>Abbreviation / Technical term</b>	<b>Description</b>
Prill	A small aggregate or globule of a material, most often a dry sphere, formed from a melted liquid.
Property	Kutel exploration license area
Pyrite	An iron sulfide with the chemical formula FeS <sub>2</sub> .
Pyroclastic	Pyroclastic rocks are clastic rocks composed of rock fragments produced and ejected by explosive volcanic eruptions
QA/QC	Quality assurance and quality control
QP	Qualified Person
RC	Reverse circulation
Rhodope	A mountain range in Southeastern Europe
RL	Reduced level, the height or elevation above the point adopted as the site datum for the purpose of establishing levels
SAG	Semi-autogenous grinding
Sb	Antimony
Schist	A medium to coarse-grained metamorphic rock. It is usually silvery green to dark green and grey. It contains thin layers which may be wavy, it usually splits easily along these layers, but does not form platy sheets like slate.
SD	Standard deviations
SE	South-east
Sericite	The name given to very fine, ragged grains and aggregates of white micas,
SG	Specific gravities
SLS	Limestone Unit
SMR	Marl Unit
St Charles	St Charles Resources Inc.
Th	Thorium
TSX.V	Toronto Venture Exchange
U	Uranium
UDL	Upper detection limit
UTM	Universal Transverse Mercator
WGS84	World Geodetic System
XCO	Post Mineral Conglomerate Unit

## 2 Introduction

### 2.1 General and terms of reference

This Technical Report on the Kostilkovo Gold Project (Project) which is part of the Chukata exploration license (Property) in Bulgaria, has been prepared by AMC Mining Consultants (Canada) Ltd. (AMC) of Vancouver, Canada on behalf of St Charles Resources Inc. (St Charles) of Toronto, Ontario. It has been prepared in accordance with the disclosure requirements of National Instrument 43-101 Standards of Disclosure for Mineral Projects (NI 43-101), to disclose relevant information about the Property.

This Technical Report is required to be filed with the TSX Venture Exchange (TSX.V) in connection with a proposed Qualifying Transaction of St Charles.

### 2.2 Issuer

The issuer, St Charles, a Capital Pool Company (CPC), as defined under the policies of the TSX.V, entered into a letter of intent with Eastern in respect of a proposed business combination transaction pursuant to which St Charles would acquire all of the issued and outstanding securities of Eastern. Eastern is a private gold exploration company actively exploring for gold in Bulgaria.

The Kostilkovo Gold Project is part of the larger Chukata exploration license (Property). The Chukata exploration license was awarded to Eastern in 2019 (Decision No. 480/27.04.2018). The exploration license agreement between Eastern and the Bulgarian Ministry of Energy was concluded on the 25 February 2019 and came into force on the 23 April 2019.

Refer to Section 4.1 for an explanation and illustration of the geographical relationship between the Property and the Project.

### 2.3 Summary of Qualified Persons

The names and details of persons who prepared, or who have assisted the Qualified Persons (QP), in the preparation of this Technical Report are listed in Table 2.1. The QPs meet the requirements of independence as defined in NI 43-101.

Table 2.1 Persons who prepared or contributed to this Technical Report

Qualified Persons responsible for the preparation and signing of this Technical Report						
Qualified Person	Position	Employer	Independent of St Charles and Eastern	Date of site visit	Professional designation	Sections of report
Mr Mark J. Burnett	Principal Geologist	AMC Consultants (UK) Limited	Yes	15 & 16 May 2022	CGeol (UK), EurGeol (Europe)	1 - 12, 14 - 27
Mr Paul Greenhill	Principal Metallurgist	AMC Consultants Pty Ltd	Yes	N/A	FAusIMM (CP)	13
Other experts who have assisted the Qualified Persons						
Expert	Position	Employer	Independent of St Charles and Eastern	Visited site	Sections of report	
Mr Sean Hasson	Executive Director	Eastern Resources Ltd.	No	15 & 16 May 2022	General	

## 2.4 Site visits

An inspection of the Property was completed by QP, Mr Mark Burnett (CGeol), between 15 and 16 May 2022, accompanied by Mr Sean Hasson (Executive Director Exploration, Eastern) and Mr Mathias Knaak (Structural Geologist, Domlogic Geoservice).

The QP for mineral processing and metallurgical testing, Mr Paul Greenhill (FAusIMM), has not visited the site as it has been determined that there is no meaningful relevant material to be inspected during any such visit.

## 2.5 Sources of information

The report is based on a review of technical data and historical reports provided by Eastern as well as non-technical information available from public domain sources such as websites. References are listed in Section 27, and the abbreviations, units of measurement, and currencies are listed after the table of contents.

The land tenure in Bulgaria is based on the geodetic datum Bulgarian System 1970. The 1970 system is not currently recognized in any global positioning system (GPS), surveying, mapping, or GIS software. Gdat Applied Solutions built a transform to WGS84 UTM34N and UTM35N in 2006 for Balkan Mineral and Mining AD (Mannola, 2006). The process involved using official transformation software MTSTrans. Information was imported into MapInfo. Then a Lambert conformal conic coordinate system was run. This process requires ten inputs of which three are known and seven were approximated from other sources of data. Differences to the 1970 system were then reduced to acceptable accuracy with a subsequent affine transformation. The result is that the transformation is accurate to within 1 metre (m) in the Easting direction and within 0.7 m in the Northing direction. Although not material at the exploration phase, it was recommended by Gdat Applied Solutions that to audit the logic and the accuracy of the established projection parameters for the zones K-3, K-5, and K-9 by a MapInfo familiar surveyor contractor or a MapInfo contractor. That recommendation is restated here.

Section 4 states the tenure region in the 1970 system and the UTM transform is also stated for reference. All other maps use WGS84 UTM35N. The QP has not verified the conversion but notes that this verification step was performed by Pelican Geographics Ltd. The conversion was deemed to be appropriate for the purposes for which the data is being used (Hilton, 2006).

## 2.6 Effective date

This report is effective as of 8 September 2022.

St Charles was provided with a draft of this report to review for factual content.

## 3 Reliance on other experts

The QP has relied, in respect of legal aspects, upon the work of the Expert listed below. To the extent permitted under NI 43-101, the QP disclaims responsibility for the relevant section of the Report.

- Expert: Ms Tsvetelina Dimitrova, Partner, Georgiev, Todorov & Co Law Offices, Sofia, Bulgaria, as advised in a letter of 14 July 2022 to Sean Hasson, Mihaela Maria Barnes, Jeff Pennock and Danko Zhelev entitled "Legal Opinion regarding Eastern Resources' rights under Chukata and Kutel prospecting and exploration agreements.
- Report, opinion, or statement relied upon: information on mineral tenure and status, title issues, royalty obligations, etc.
- Extent of reliance: full reliance following a review by the QP.
- Portion of Technical Report to which disclaimer applies: Sections 4.2 and 4.3.

There are no other reports, opinions, or statements of legal or other experts on which the QP has relied.

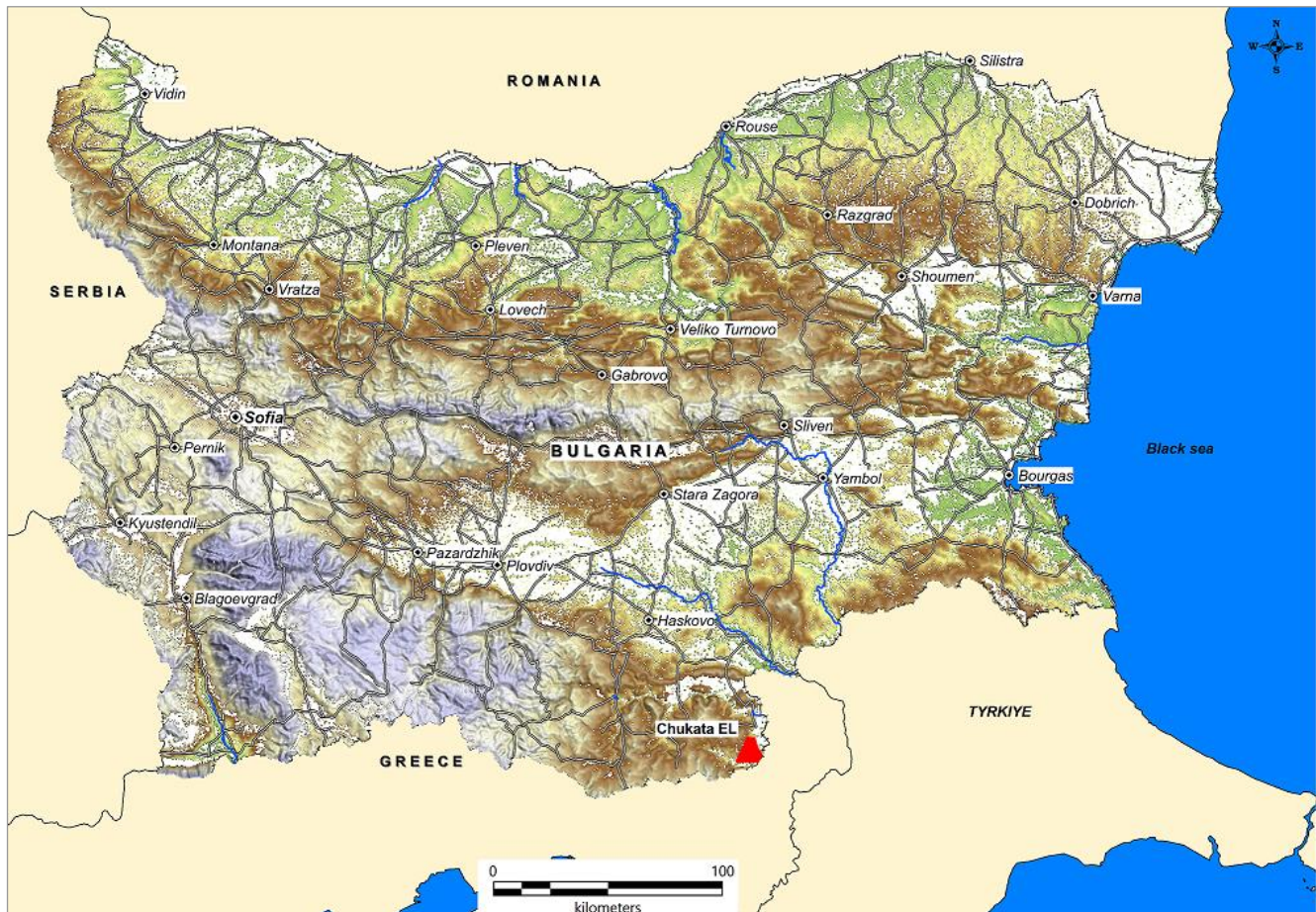
## 4 Property description and location

### 4.1 Property location

The Property is located within the Eastern Rhodope mountain range (Eastern Rhodope) in the far south of Bulgaria, close to the border with Greece, and 270 kilometres (km) south-east of Sofia, the capital of Bulgaria (Figure 4.1).

The Property is wholly located within the Municipality of Ivailovgrad in the Haskovo District, Bulgaria, 13 km south-southwest from the town of Ivailovgrad. The Property is situated between the villages of Plevun (population 115) and Kostilkovo (population 1) to the west, Meden Buk (population 49), Dolno Lukovo (population 65), and Mandritsa (population 47) to the south, Siv Kladenets (population 9) and Belopolyane (population 99) to the east and Oreshino (population 22) to the north.

Figure 4.1 Location of the Kostilkovo Gold Project



Note: Kostilkovo Gold Project marked by red pin.  
Source: Eastern, 2022.

The Property covers an area of 66.18 square kilometres (km<sup>2</sup>). The Project has been defined by Eastern as an area of exploration focus located in the southwestern corner of the Property (Figure 4.2). Approximately 15 km<sup>2</sup> in area, the Project encompasses a set of six principal and named prospects. Table 4.1 shows the relationships between the Property, the Project, and the prospects. Figure 4.3 illustrates the spatial locations of the prospects.

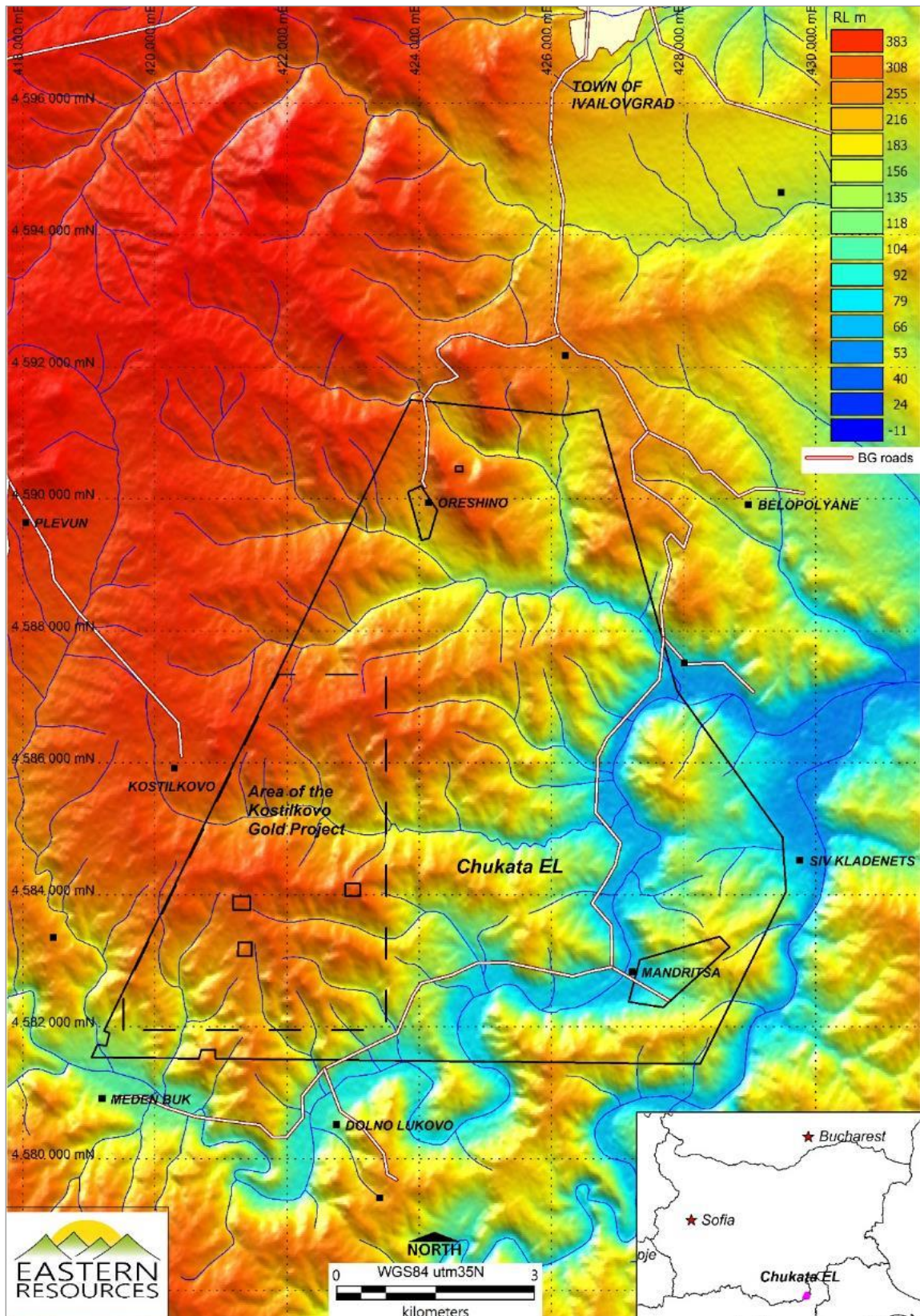
Table 4.1 Relationships between the Property, the Project, and principal prospects

<b>Property</b>	<b>Project</b>	<b>Prospect name</b>
Chukata Exploration License (66.18 km <sup>2</sup> )	Kostilkovo Gold Project (Approximately 15 km <sup>2</sup> )	Izvorite Chiflika Runkite Obor Dolno Lukovo Qmuirlika

The Project is accessed via provincial paved road to the village of Plevun followed by a 6 km long gravel road in poor condition to the village of Kostilkovo. Access within the Project area is via unpaved forest access roads. The Project can also be accessed via a gravel road from near to the village of Dolno Lukovo, or a 29 km paved provincial road from the regional center of Ivailovgrad (population 3,102) to the village of Meden Buk, which provides various access options into the Property.

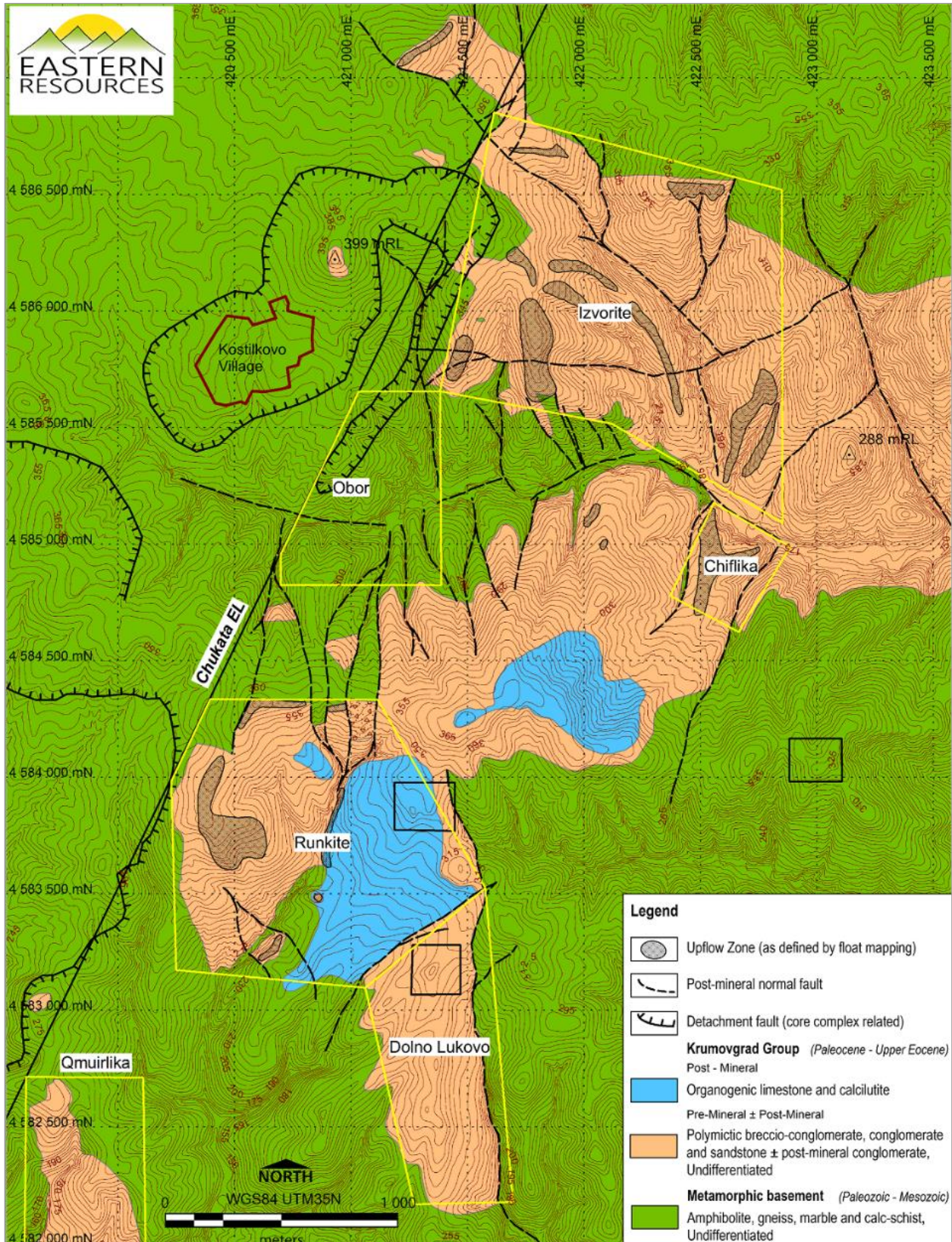


Figure 4.2 Location of the Kostilkovo Gold Project relative to the Chukata EL Property



Source: Eastern, 2022.

Figure 4.3 Location of prospects within the Project



Source: Eastern, 2022.

## **4.2 Summary of the Bulgarian regulatory framework**

As per the 2017 MINLEX Country Report BG, the regulatory mining framework in Bulgaria is reproduced below.

Mining in Bulgaria is regulated by the Concessions Act (SG No. /36/2.05.2006) and the Subsurface Resources Act (No. 23/12.03.1999). Other laws of relevance for permitting procedures include the Waste Management Act (53/13.07.2012), the Environmental Protection Act, the Nature Protection Act, the Protected Areas Act (133/11.11.1998), the Act for the protection of the environment (SG 91/25.09.2002), the Water Act (67/27.07.1999), Law for Biological Diversity (SG/77/09.08.2002) and the Health and Safety Working Conditions Act, among others.

Bulgaria has a centralized regime where all licenses for all kind of commodities are processed after a written application to the Ministry of Energy. Other relevant co-authorities are the Ministry of Environment and Waters and the Regional Inspectorates on Environment and Water, which coordinate the environmental permitting with the Ministry of Environment. Permits for exploration are granted by the Ministry of Energy upon approval by the Council of Ministers or for the continental shelf and the economic exclusion zone by the Council of Ministers. Concessions for extraction of subsurface resources are granted by: i) competition, ii) tender, or iii) by right of a license holder for prospecting and exploration or for exploration if a commercial discovery was made.

Concessions for extraction may be granted for terms of up to 35 years, extendable for another 15 years. Following the Environmental Protection Act almost all mining activities are subject to an EIA, thus the Ministry of the Environment and Waters is frequently involved as a co-authority as well as the Regional Inspectorates, which act as regional environmental permitting authorities. A permit may be granted only after being coordinated and not rejected by other co-authorities such as the Ministry of Defence, Ministry of the Interior, National Security Agency (if national defense issues are at stake), the Ministry of Culture and the concerned municipality (local land use planning).

## **4.3 Mineral tenure**

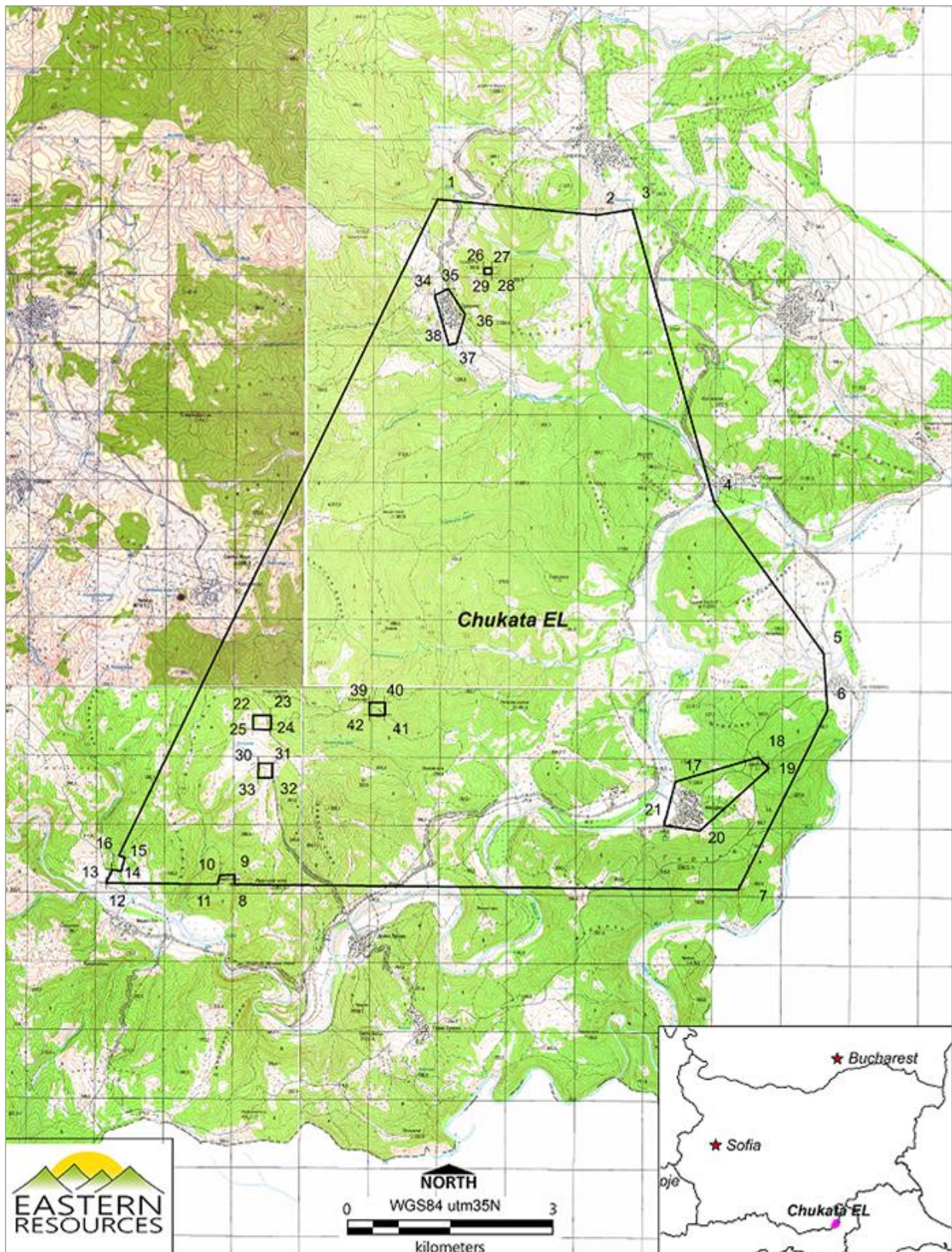
The Property comprises a single Exploration License (Decision 480/27.04.2018) referred to as the Chukata EL, encompassing an area of 66.18 km<sup>2</sup> which is centred approximately at 425,000 mE and 4,585,000 mN (WGS84, UTM35N).

Eastern applied for the Chukata EL in November 2014. In December 2015, Eastern was informed by the Bulgarian Ministry of Energy that due to the interest of another company, the granting of the EL would proceed as a competitive tender. In December 2016, Eastern was informed by the Bulgarian Ministry of Energy, that they had been placed first in the competitive tender, and that subject to the successful negotiation of contractual terms the EL would be granted to Eastern. The Chukata EL agreement was signed with the Bulgarian Ministry of Energy on 25 February 2019. Subsequently, Eastern received the final approval of the Bulgarian Ministry of Environment and Waters on 23 April 2019, which is the effective date of the EL agreement. The Property is 100% owned by Eastern.

An Additional Agreement No. 1 was concluded with the Ministry of Energy on 27 April 2022 which allows Eastern to explore the Property for an additional 2-year period. The size of the Property was reduced from 69.55 km<sup>2</sup> to 66.18 km<sup>2</sup>. As of the effective date of this report Eastern has not received final approval from the Bulgarian Ministry of Environment and Waters, which when provided, will be the effective date of the first two-year extension.

The Chukata EL permits Eastern to explore and prospect for metalliferous Mineral Resources in the EL area, municipality of Ivailovgrad, district of Haskovo, Bulgaria. (Figure 4.4, Table 4.2, and Table 4.3).

Figure 4.4 Plan showing the extent of the Property



Note: Includes marked excluded areas (Section 4.6).  
Source: Eastern, 2022.

Table 4.2 Chukata EL boundary co-ordinates: WGS84 UTM35N co-ordinate system

Point	East	North
1	423,871	4,591,501
2	426,190	4,591,269
3	426,710	4,591,351
4	427,901	4,587,094
5	429,497	4,584,879
6	429,552	4,584,053
7	428,254	4,581,436
8	420,920	4,581,515
9	420,913	4,581,656
10	420,701	4,581,649
11	420,668	4,581,518
12	419,040	4,581,535
13	419,131	4,581,729
14	419,263	4,581,709
15	419,311	4,581,902
16	419,228	4,581,938
<b>Excluded area</b>		
17	424,552	4,590,498
18	424,660	4,590,500
19	424,662	4,590,411
20	424,553	4,590,410
21	423,830	4,590,104
<b>Excluded area</b>		
22	424,028	4,590,197
23	424,271	4,589,825
24	424,151	4,589,406
25	424,036	4,589,376
<b>Excluded area</b>		
26	421,185	4,583,976
27	421,444	4,583,977
28	421,446	4,583,770
29	421,186	4,583,774
<b>Excluded area</b>		
30	422,882	4,584,166
31	423,106	4,584,165
32	423,107	4,583,982
33	422,882	4,583,981
<b>Excluded area</b>		
34	421,264	4,583,280
35	421,468	4,583,281
36	421,469	4,583,069
37	421,258	4,583,067
38	427,339	4,583,014
<b>Excluded area</b>		
39	428,547	4,583,367
40	428,697	4,583,207
41	427,691	4,582,295
42	427,169	4,582,376

Note: The coordinate system is WGS84 UTM35N.  
Source: Eastern, 2022.

Table 4.3 Chukata EL boundary co-ordinates: Bulgarian 1970 co-ordinate system

Point	X (m)	Y (m)
1	4528740	9471214
2	4528774	9472982
3	4527905	9473204
4	4527759	9473878
5	4526918	9474238
6	4527004	9474758
7	4522753	9475979
8	4520548	9477591
9	4519722	9477652
10	4517095	9476372
11	4517123	9469034
12	4517264	9469026
13	4517255	9468814
14	4517124	9468782
15	4517130	9467153
16	4517324	9467242
17	4517305	9467375
18	4517499	9467421
19	4517534	9467338
20	4527134	9471916
<b>Excluded area</b>		
21	4526135	9472605
22	4526138	9472713
23	4526049	9472715
24	4526047	9472606
<b>Excluded area</b>		
25	4525736	9471885
26	4525830	9472083
27	4525460	9472328
28	4525040	9472211
29	4525009	9472096
<b>Excluded area</b>		
30	4519587	9469282
31	4519590	9469541
32	4519382	9469544
33	4519385	9469284
<b>Excluded area</b>		
34	4519789	9470978
35	4519789	9471202
36	4519606	9471205
37	4519604	9470979
<b>Excluded area</b>		
38	4518891	9469366
39	4518893	9469570
40	4518681	9469572
41	4518678	9469361
<b>Excluded area</b>		
42	4518667	9475445
43	4519029	9476652
44	4518870	9476803
45	4517950	9475803
46	4518028	9475280

Source: Eastern, 2022.

An annual fee is paid based on the size of the Property, in this case 250 leva (128 Euro) per km<sup>2</sup> as shown in Table 4.4, for the first extension period. The area covered by the Property may be abandoned earlier, or the surface holding may be reduced annually at the Company's discretion. Exploration license extensions are granted if the planned work program has been fully completed, or if a Geological Discovery (Initial Mineral Resource Estimate) has been registered with the Ministry of Energy.

Table 4.4 Bulgarian permitting and fees for exploration and prospecting licenses

Type of commodity	Permission period	Allowed Extension	Allowed surface	Tax per km <sup>2</sup>	
	Years, up to	Years, up to	km <sup>2</sup> , up to	Primary permission period	Extended period
Metalliferous Mineral Resources	3	2+2+1	200	100 Lv (51 €)	250 Lv (128 €)

Notes: Lv=Leva, € = Euro, 1 Lv ~ 0.51 €; 1Ly ~ C\$0.67.  
Source: Eastern, 2022/MINLEX, 2017.

#### 4.4 Royalties and other agreements

Mineral royalties are determined via a sliding scale based on profitability and range between 0.8% to 4% of the gross metal value. There are no back-in right, payments or other agreements and encumbrances to which the Property is subject.

#### 4.5 Environmental considerations

The Property falls within the boundaries of a conservation area (Natura 2000 site) under the meaning of the Biological Diversity Act in the Republic of Bulgaria. Natura 2000 is a pan-European network of protected areas aimed at ensuring the long-term survival of Europe's most valuable and endangered species and habitats in accordance with national and international agreements in the field of environmental protection and biodiversity.

The "Rhodope East" protected area (official code BG0001032) is designated for the conservation of the natural habitats and wild flora and fauna under Article 6, paragraph 1, items 1 and 2 of the Biological Diversity Act. The "White River" protected area (official code BG0002019) is designated for the conservation of wild birds under Article 6, paragraph 1, Items 3 and 4 of the Biological Diversity Act. The Natura 2000 sites are designated as either habitat, birds, or both. The Kostilkovo Property is designated for habitats and birds.

Having an exploration property fall within a Natura 2000 site (habitats and / or birds) does not limit exploration activity as there are procedures in place to conduct exploration. Potential mining is also not affected, as this is dealt with at the Environmental Impact Assessment (EIA) stage. The QP notes that the Ada Tepe Gold mine in Bulgaria is a Natura 2000 site for habitats.

The Bulgarian Environmental Protection Act (EPA) Chapter 6 sets out the criteria for properties subject to environmental impact assessment or ecological assessment. A notification from the Ministry of Environment and Water (No HC3П-89/23.04.2019) was issued that the overall working project for prospecting and exploration in Kostilkovo does not fall within Chapter 6 of the EPA and is not subject to environmental impact assessment or ecological assessment.

In accordance with Article 2, para. 3 of the Kostilkovo agreement, the holder of the rights shall submit to the competent bodies an overall working project for prospecting and exploration and submit a copy of the letter to the Ministry of Energy within one month as of signing of the Kostilkovo agreement. In addition to outlining yearly working project for prospecting and exploration on the Property, it also outlined plans for recultivation of the land plots affected by the prospecting and exploration activities.

## 4.6 Archaeological and heritage considerations

An integral part of the exploration license application process in Bulgaria requires all Ministries to review the application and provide comment, if any, to the Ministry of Energy. According to the prospecting and exploration agreement concluded with the Ministry of Energy, the territories of the archeological immovable cultural sites and their protection zones, of which there are nineteen within the Property, should be excluded from the scope of prospecting and exploration and should not be affected in any way by the geological exploration activities.

The holder of the permit for prospecting and exploration is obliged (Article 30 UNRA): if discovering mineral, historical or archaeological findings having the signs of cultural valuables, to stop the work in due time and inform immediately the Minister of Energy and the Minister of Culture.

As part of a subsequent procedure for granting a mining concession, the exploration license holder shall carry out rescue archeological excavations of the archeological sites falling within the contour of the area according to Article 161, paragraph 1 of the Cultural Heritage Act.

## 4.7 Risks and other factors

The QP is not aware of any other significant factors or risks that may affect access, title, or the right or ability to perform work on the Property.



## 5 Accessibility, climate, local resources, infrastructure, and physiography

### 5.1 Topography, elevation, and vegetation

The topography of the region is characterized by hills and low mountains (Figure 5.1). Elevations range from 200 m to 450 m in the east through to 100 to 400 m in the north (Figure 5.2). The highest peaks on the Property are:

- Old Vineyards: 376 m
- Mihail Tepe: 368 m
- Saint Ilia: 399 m

This part of the Eastern Rhodopes is located at the transition between two phytogeographic zones, the Central European and the Mediterranean, giving the region a large floral diversity. Forests in the region contain a combination of Central European flora, such as oak and beech, and Mediterranean flora, such as periwinkle, red juniper, hairy oak, jasmine, and fig. The Project occurs within a local forestry region where oak and bristle pine are being cultivated for commercial purposes (Figure 5.3).

As well as having a wide faunal diversity, with 4,329 animal species, the Eastern Rhodopes are considered as being the European region with the largest diversity of raptors.

The Eastern Rhodopes are currently the focus of a rewilding scheme, with the intent being to reintroduce fallow deer, red deer, wild horses, and bison.

### 5.2 Access

The Property is accessed via a paved National highway from Sofia to Lyubimets (265 km), followed by another 80 km on provincial paved roads to the village of Pelevun (Plevun); approximately four hours travel time from Sofia. Access on the Property and Project is via secondary, unpaved and forest roads. Only the road from Ivailovgrad to Meden Buk village is paved. The forestry tracks, which cross the Property provide reasonable access to all Project and prospect areas.

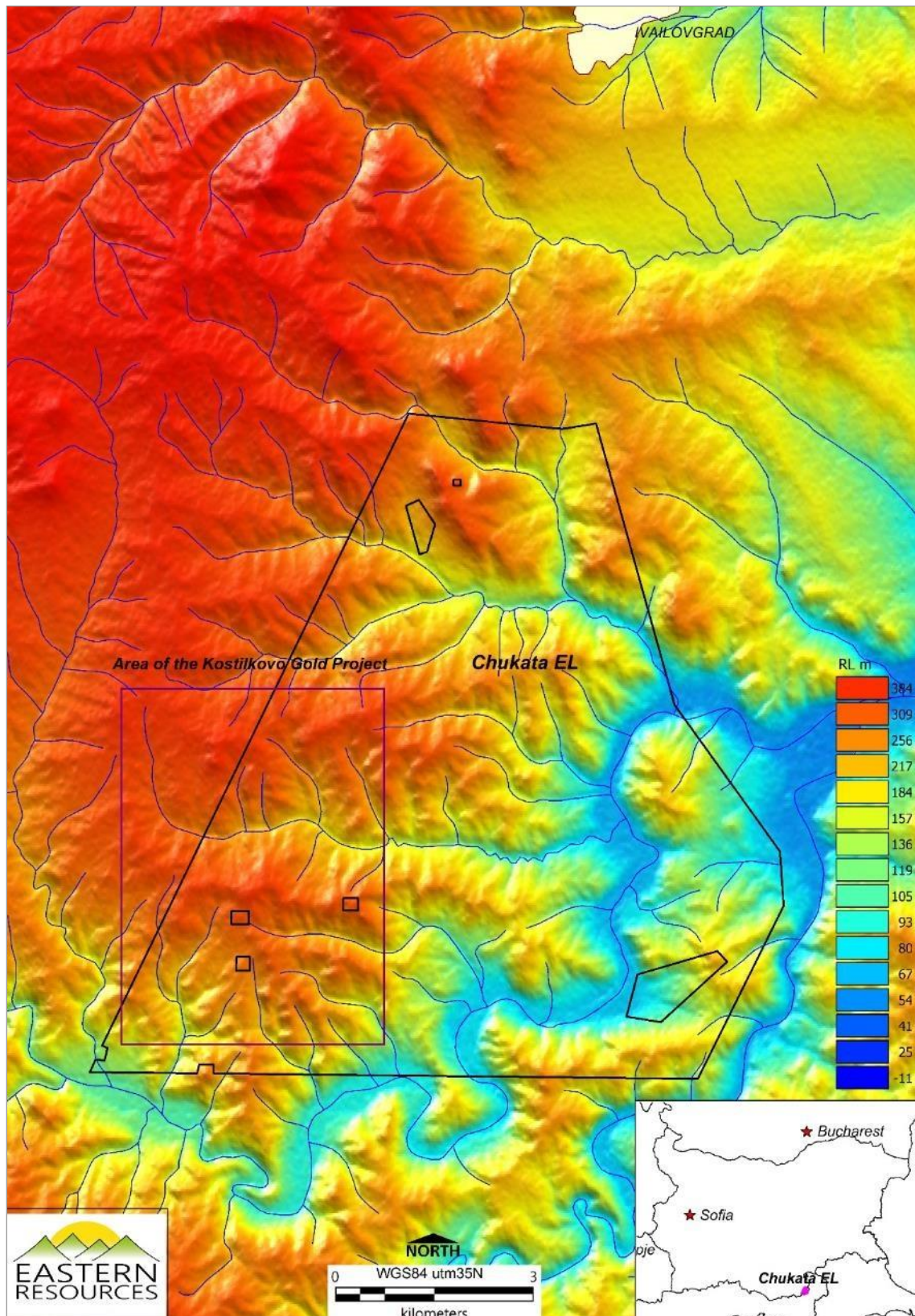
### 5.3 Local infrastructure

As discussed in Section 4, the Property is situated between the villages of Plevun (population 115) and Kostilkovo (population 1) to the west, Meden Buk (population 49), Dolno Lukovo (population 65), and Mandritsa (population 47) to the south, Siv Kladenets (population 9) and Belopolyane (population 99) to the east and Oreshino (population 22) to the north.

The area has significant unemployment which has led to the depopulation of the region, as evidenced by the village of Kostilkovo which has a current population of one. The primary livelihood in the area is agriculture, mainly small-scale tobacco and grain production as well as animal husbandry and logging.

A small portion of the population works in the surrounding quarries. There are no settlements on the Property and as such there is no electricity, running (tap-fed water) or mobile phone service.

Figure 5.1 Topographic elevation map of the Property



Source: Eastern, 2022.

Figure 5.2 Typical topography on the Kostilkovo Project



Source: Eastern 2022.

Figure 5.3 Typical vegetation on the Kostilkovo Project



Source: Eastern 2022.

## 5.4 Climate

The Property occurs within a transitional zone between a moderately continental type, with a spring rainfall and Mediterranean type, with dry summers and mild rainy winters. The average annual temperatures vary between 8°Celsius (C) and 13.5°C, average winter January temperatures range between -3°C and 4°C, and average summer July temperatures range from 16°C to 24°C. Spring is warm with short rains, the summer is dry and hot, while the autumn is characterized by alternating rains and warm days, and the winter is warm and humid. Annual precipitation is between 500 millimetres (mm) and 900 mm.

Exploration activity can be performed year-round.

## 5.5 Local resources

The Property is located in the Municipality of Ivailovgrad within the Haskovo Region. The regional centre of Ivailovgrad, located 40 minutes by car to the north-east, includes a substantial national electrical substation responsible for the transit (export) of electricity to Greece and Turkey.

Local resources are limited within the Property. Small-scale logging of timber is conducted within the Property.

There are two small village shops in Plevun (population: 115).

## 5.6 Surface rights

The land surface rights within the Property are held by various owners, including the Bulgarian State Forestry Department, local Municipalities or are privately owned.

If a mining operation is proven to be viable on the Property, surface rights would need to be acquired by St Charles from the relevant owners, at a later date.

## 6 History

### 6.1 Ownership

Table 6.1 summarizes the known previous operators withing the Property.

Table 6.1 Historical operators within the Property

Operator	Period	Coverage
Bulgarian State	1958 - 1960	Regional
	1994 - 1995	Regional
Hereward Ventures plc / Goldfields Limited	2001 - 2003	Rozino exploration property
Hereward Ventures plc / Ivanhoe Mines / Asia Gold Corp.	2005 - 2007	Rozino exploration property
Cambridge Mineral Resources (Hereward) / Electrum	2007 - 2014	Rozino / Kondovo exploration license

Source: Adapted from Eastern.

### 6.2 Exploration summary

#### 6.2.1 Bulgarian State

##### 6.2.1.1 Mapping

The Kostilkovo region was mapped by the Bulgarian State at a scale of 1:25,000 from 1958 to 1960 with concurrent exploration investigations for lead and zinc. Regional mapping continued during the period 1994 - 1995.

##### 6.2.1.2 Airborne geophysics

In 1988, the Bulgarian State flew aero-radiometric spectrometric surveys in an east-west direction, over the Property, with an average flight line separation of 450 m. North-south tie lines were flown at approximately 10 km intervals.

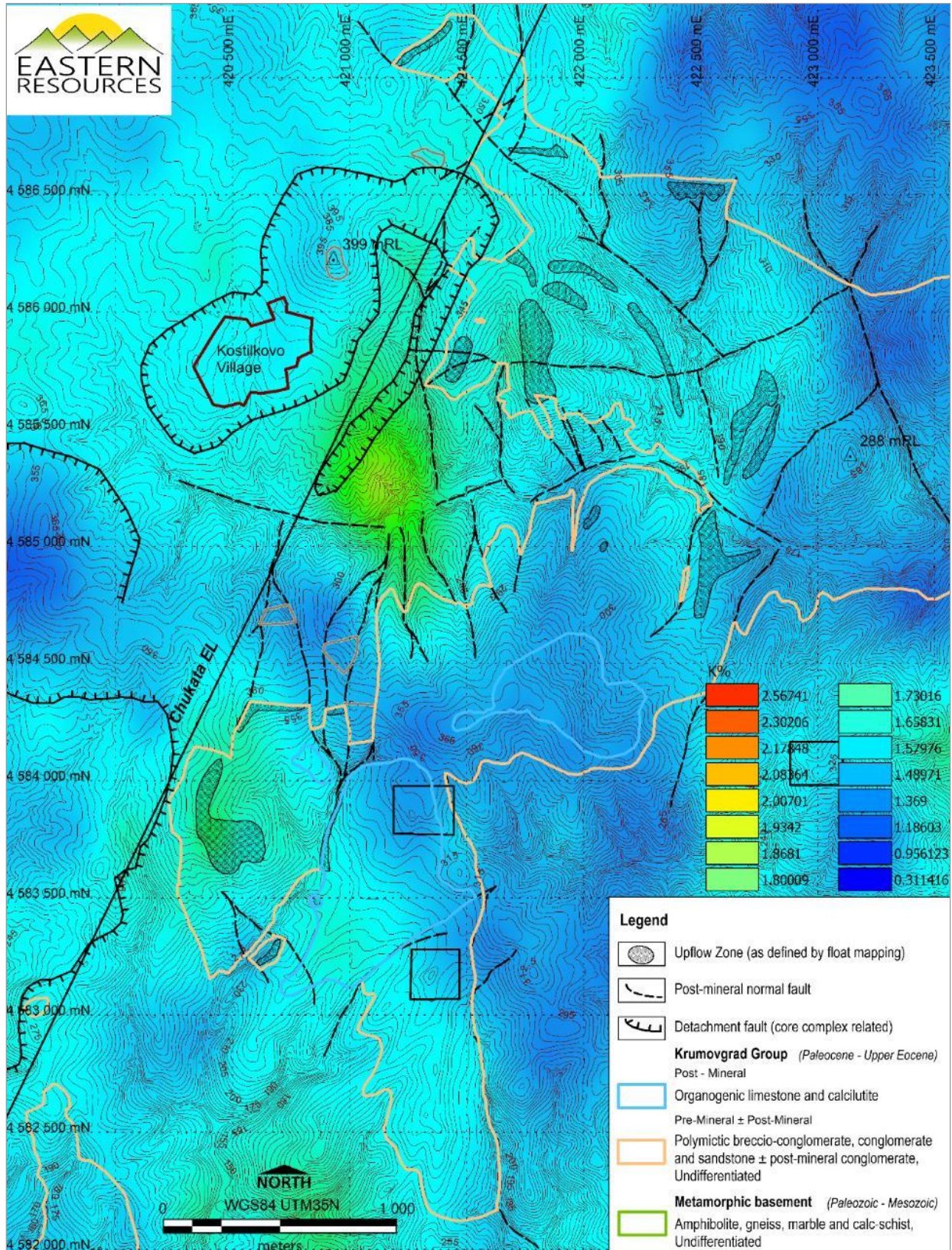
The most useful information gained from aero-gamma spectrometric surveys within a low-sulphidation epithermal environment, is obtained from the potassium (K) data. This is because intense hydrothermal alteration is normally associated with potassium enrichment due to the presence of adularia and illite (Figure 6.1). Thorium (Th) (Figure 6.2) and uranium (U) (Figure 6.3) are generally not affected by epithermal alteration and mineralization. However, Eastern notes that the majority of reported radiometric surveys have been carried out in volcanic-rock hosted terranes.

The potassium data for the Project area exhibits a clear positive correlation with the historical gold soil geochemical data (Section 6.2.2.3). The majority of these coincident anomalies are located within the sub- to outcropping Krumovgrad Group sediments, with three exceptions:

- The Runkite prospect exhibits a poor gold-in-soil response, but a strong potassium anomaly.
- The Obor prospect is hosted in metamorphic basement metasediments and exhibits a strong potassium, thorium, and uranium association together with a strong gold-in-soil response.
- A newly defined area, with similar dimensions to the Obor prospect area and located immediately north of the Izvorite prospect area, has a strong potassium, thorium, and uranium association but was not covered by historical soil sampling. This area remains lightly explored to date.

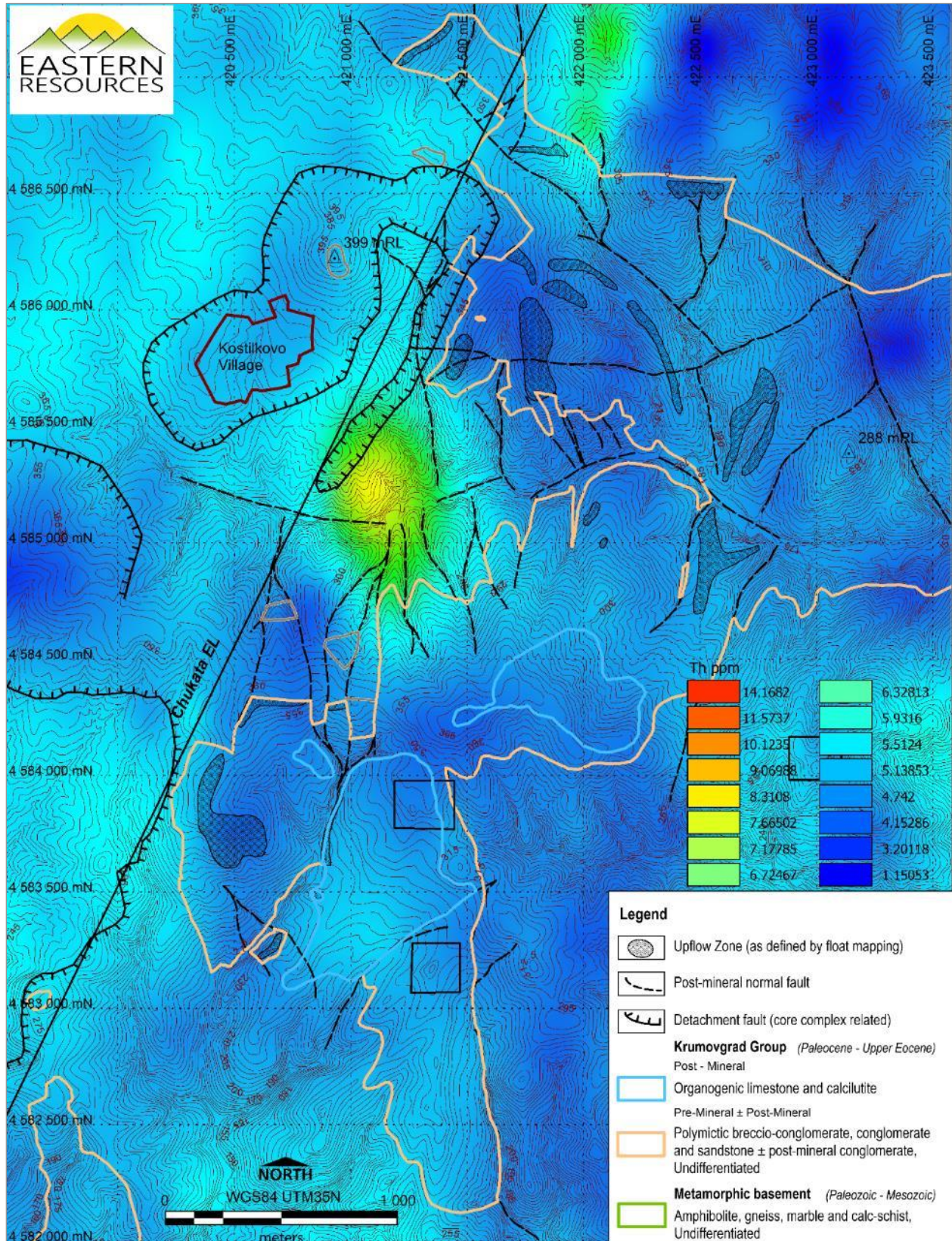
When interpreting radiometric data, a formula commonly referred to as F-factor ( $K \times U/Th^2$ ) is used for the delineation of fault zones or structural lineaments which may represent upwelling hydrothermal fluids, and which may control mineralization. Figure 6.4 shows a map of the F-factor covering the Project.

Figure 6.1 Potassium aero-radiometrics (linear stretch) over the Kostilkovo Gold Project



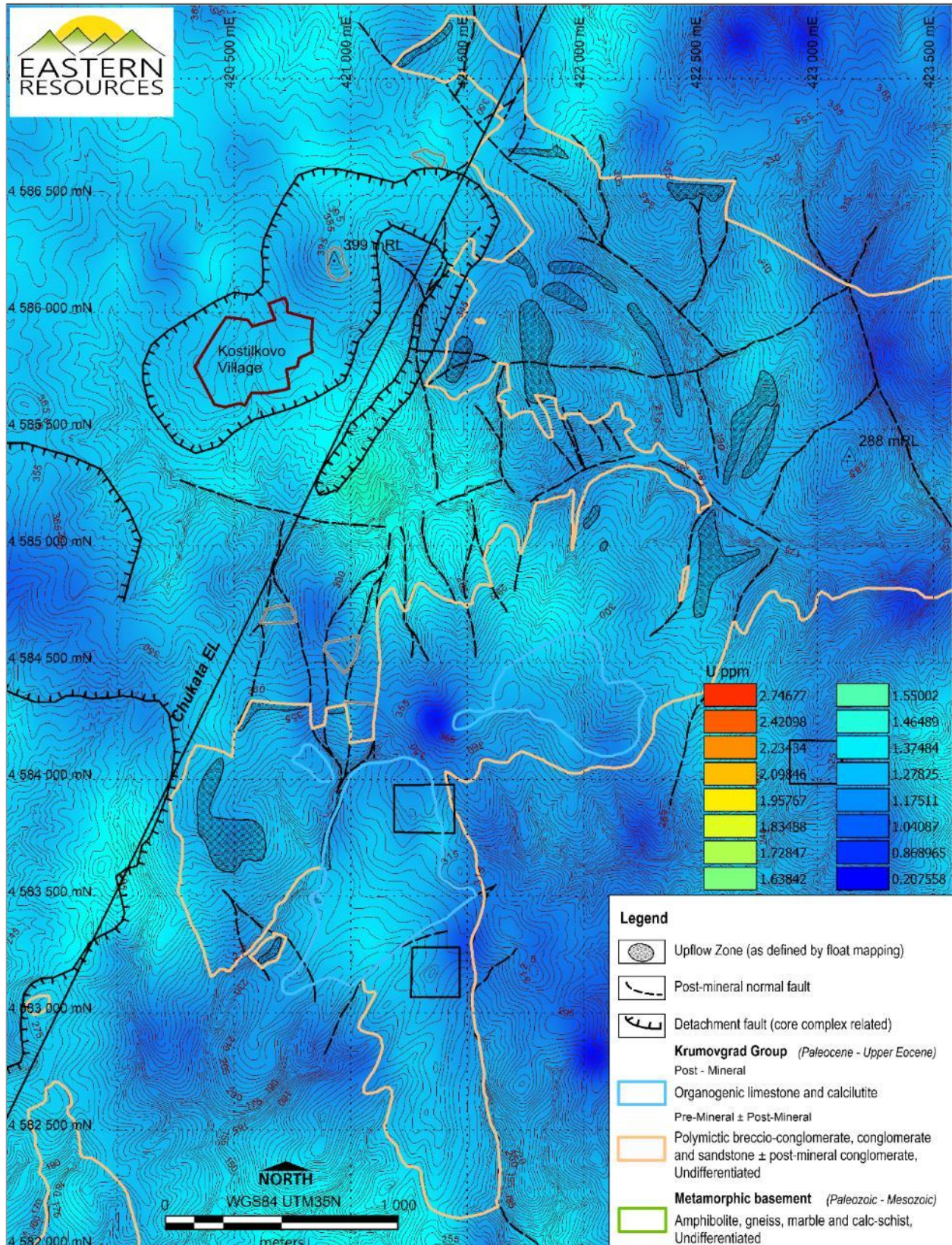
Source: Eastern, 2022, after Bulgarian State Survey data.

Figure 6.2 Thorium aero-radiometrics (linear stretch) over the Kostilkovo Gold Project



Source: Eastern, 2022 after Bulgarian State Survey data.

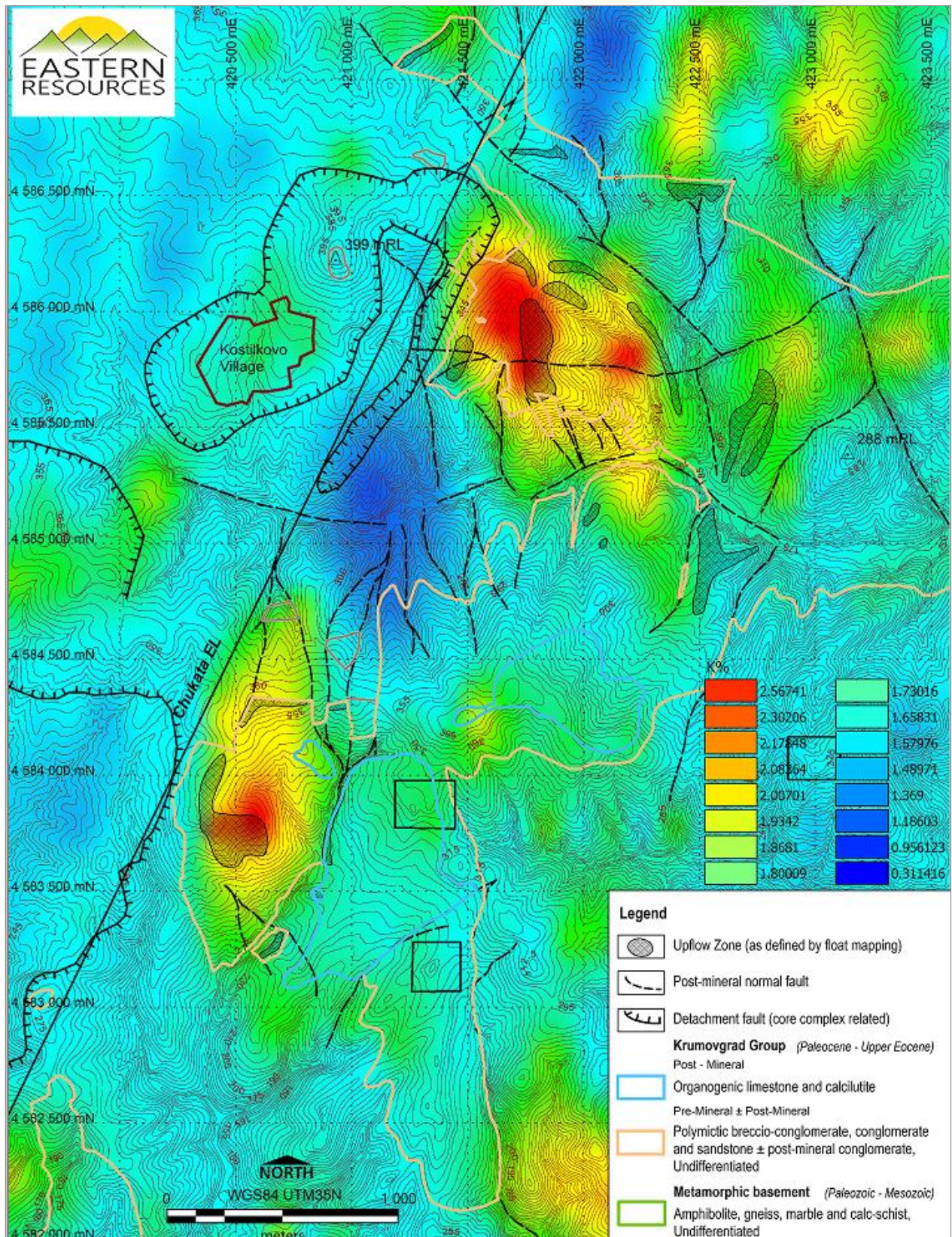
Figure 6.3 Uranium aero-radiometrics (linear stretch) over the Kostilkovo Gold Project



Source: Eastern, 2022 after Bulgarian Survey data.



Figure 6.4 F-factor ( $K \times U/Th^2$ ) aero-radiometrics (linear stretch) over the Kostilkovo Gold Project



Source: Eastern, 2022 after Bulgarian Survey data.

## 6.2.2 Hereward Ventures plc

In May 2001, Hereward Ventures plc (Hereward), applied for the Rozino exploration license, which included part of the current Property and all the Project area. Hereward undertook exploratory drilling within the Project and on a gold anomaly adjacent to the Property.

Hereward undertook a detailed soil geochemical survey, covering 48 km<sup>2</sup>, over the Kostilkovo Project area. Two gold anomalies were identified, which contained gold values that attained a maximum value of >2,000 parts per billion (ppb). Additionally, Hereward sampled rock float having a maximum gold grade of 5.6 grams per tonne (g/t) gold (Au) within silicified Paleogene sediments (Hereward, News Release, 14 February 2002).

In October 2001, Hereward entered a joint venture with Goldfields Limited (Goldfields), the principal area of focus being the adjacent Rozino Gold Project. The joint-venture arrangement was concluded in December 2003.

In November 2005 to March 2007 Hereward entered joint ventures with Ivanhoe Mines and then subsequently with Asia Gold Corp to explore the adjacent Rozino Gold Project.

Hereward changed its name to Cambridge Mineral Resources plc (Cambridge) and entered into a joint venture with Electrum Ltd. (Electrum) in October 2007; the focus of exploration remaining on the Rozino Gold Project.

### 6.2.2.1 Exploration drilling

As part of a Hereward 2012 four-hole program, two diamond drillholes were located on the Project, at the Obor prospect, 440 m south-east (SE) of Kostilkovo village. Triple tube, HQ3, oriented core was drilled, with downhole surveying being completed using a photo-inclinometer.

The total length drilled for the two holes on the Project was 111 metres (m), with 57 samples taken for assay. The co-ordinates for the drillholes are shown in Table 6.2 and the locations relative to Eastern drilling on Figure 10.1.

Table 6.2 Summary of Hereward drilling information

DDH_ID	Easting	Northing	Elevation	Azimuth	Dip	Length (m)
KOS-02	421194	4585590	307	150	-70	27.20
KOS-03	421213	4585558	298	295	-50	83.40

The core from the Hereward drilling has been lost, although core photos still exist. Photographs of the core, as well as electronic (spreadsheet) copies of the core logging are held by Eastern and have been sighted by the QP. Aside from a single 1.1 m sample of 0.98 g/t Au from 15.3 m in KOS-02, no significant intersections are noted in the Hereward drilling.

The procedures and protocols used by Hereward for core logging and photography are unknown. The core photographs reviewed by the QP appear to have been taken of whole, wet core, from a consistent height; however, no scale bar or standard color chart accompany the photographs.

In 2014 the EL was relinquished by Cambridge, as they no longer considered the Property to have any exploration potential.

Hereward sampled their exploration drillholes in their entirety, with no breaks in the sampling sequence. Samples were a nominal length of two meters, unless controlled by a geological contact or boundary. Following core orientation, the core was cut along the orientated axis by diamond saw (Mihaylov, 2012).

Samples were bagged and ticketed in polyethylene bags with a unique sample ticket number inserted with the core. Samples were grouped in batches with each batch containing twenty samples, of which three of the samples were quality assurance and quality control (QA/QC) samples - a standard (Certified Reference Material (CRM)), a blank, and a field duplicate (Mihaylov, 2012).

Blanks were sourced from marble, while the CRMs were sourced from Geostats (Pty) Ltd (Geostats). Five CRMs were used, with certified gold values ranging 0.26 g/t to 11.26 g/t. No additional detail is available as to which CRMs were used by Hereward, nor the nature of duplicate samples (i.e., field duplicate, course crush rejects or pulp sample rejects).

One hundred and ninety-four samples were submitted to the SGS Chelopech laboratory in Bulgaria, between June and October 2012 for assaying. The QP has sighted the original assay certificates, however results from the independent QA/QC program were not available.

### **6.2.2.2 Mapping**

Hereward undertook mapping of the Rozino exploration license at a 1:5000 scale.

### **6.2.2.3 Geochemistry**

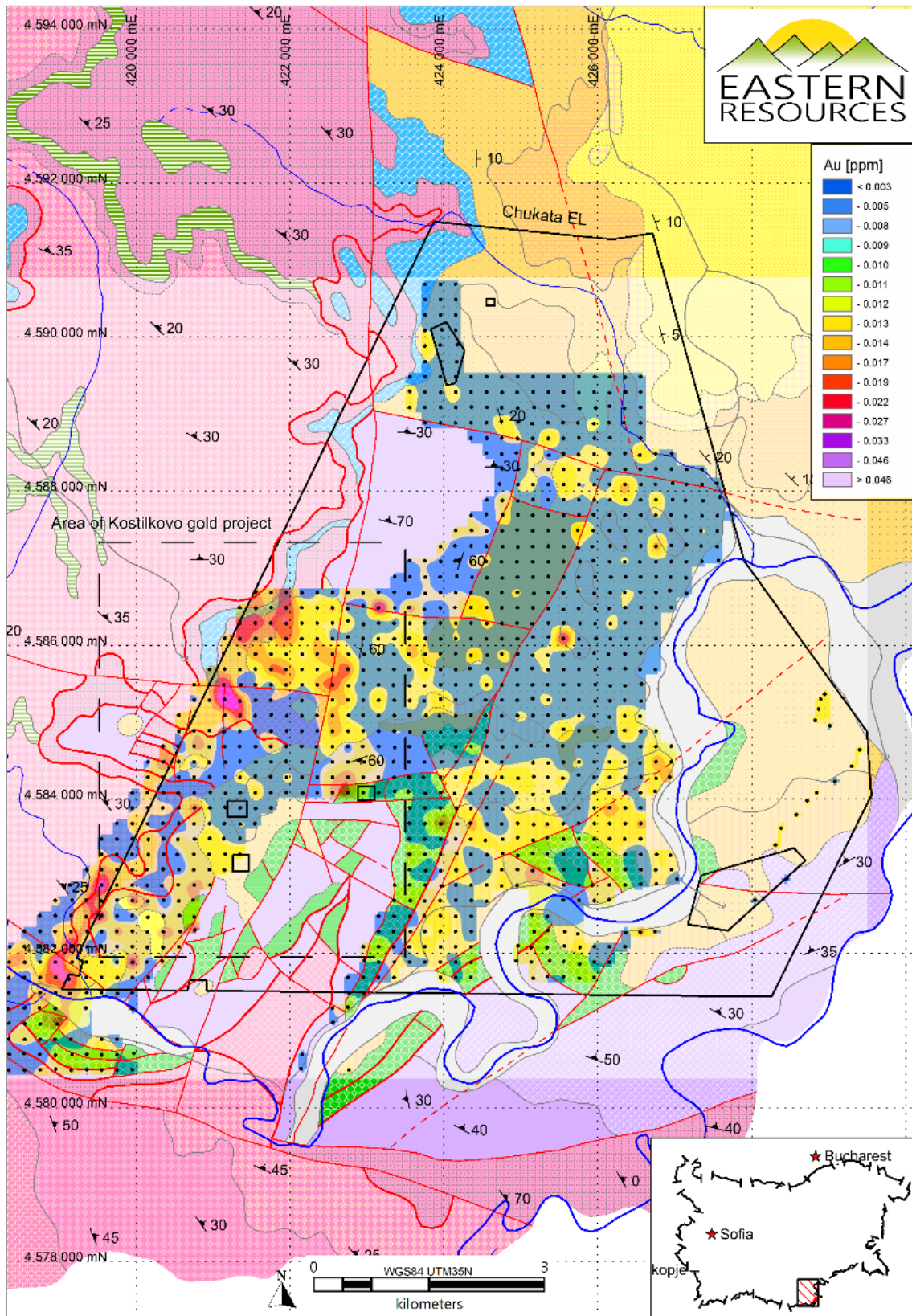
General prospecting in the Kostilkovo area (the Project), returned 312 rock chip samples taken during two phases over the periods 2001 to 2003 (Au and Ag only) and 2011 to 2012 (Au and multi-element ICP).

A total of 977 soil samples were collected and assayed for gold only. The soil geochemistry program covered approximately 50% of the Property. Samples were taken on a nominal 200 m x 200 m grid. Figure 6.5 shows the gold-in-soil concentration map derived from the sampling program. Black dots represent the soil sample sites. The area shown represents the extent of the soil sampling program within the Property (Chukata EL), while Figure 6.6 shows the gold-in-soil concentration map within the Project area.

### **6.2.2.4 Trenching**

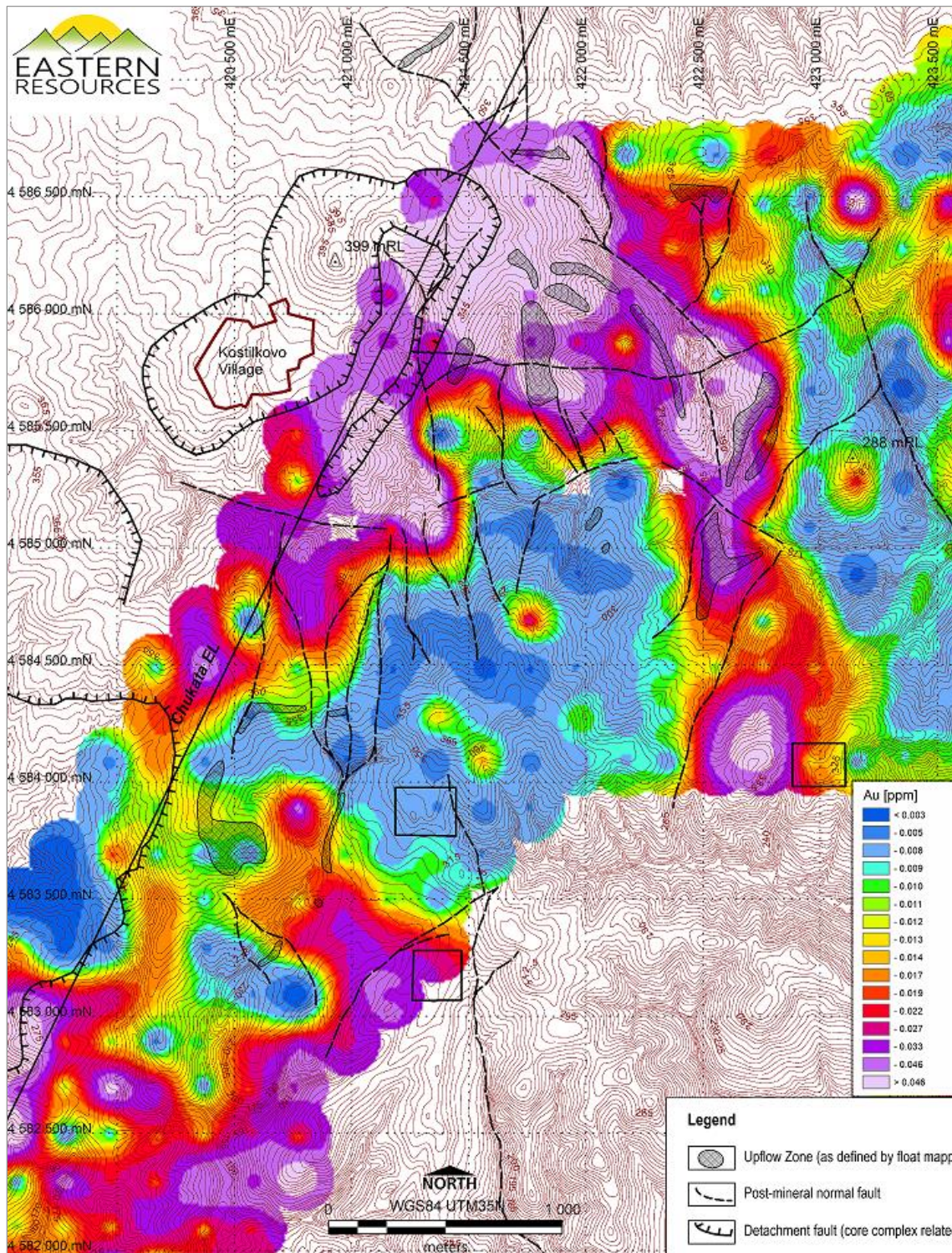
Hereward completed eight trenches (375 m) in the area immediately north-east of Kostilkovo village with a best result of 2.0 m @ 1.51 g/t Au during the 2002 - 2003 exploration program.

Figure 6.5 Hereward gold-in-soil sampling over the Chukata EL Property



Source: Eastern, 2022.

Figure 6.6 Hereward gold-in-soil sampling over the Project



Source: Eastern, 2022.

### 6.3 Mineral Resources and production

There is no record of any Mineral Resources or Reserves being reported for the Property, nor has there been any production recorded.

## 7 Geological setting and mineralization

### 7.1 Regional and Property geology

The Property is located within the western portion of the Tethyan Belt, which extends from Europe to South-East Asia, spans 33 countries, and makes up 7.3% of the earth's land mass. Major gold and copper deposits within the Western Tethyan magmatic belt formed during two main periods of Cretaceous and Tertiary magmatism. The Cretaceous deposits are dominantly copper-gold porphyry and high-sulphidation epithermal systems, whereas the Tertiary deposits display greater deposit diversity and can include low to intermediate sulphidation epithermal systems together with copper-gold porphyry systems and carbonate replacement systems.

The Property is located within the Tertiary-age segment of the Western Tethyan magmatic belt and more specifically within the Eastern Rhodope metallogenic province. This province contains numerous sedimentary rock-hosted low-sulphidation epithermal systems (quartz-adularia-illite vein systems) of which the best known is the Ada Tepe gold deposit, located 3 km south-east of the town of Krumovgrad.

Rocks associated with the Property formed within the Eastern Rhodope metallogenic province, which underwent extension and metamorphic core complex formation within a back-arc environment. This was followed by normal faulting, basin subsidence and voluminous volcanic eruptions during Maastrichtian-Oligocene. During this period of volcanic eruption, the nature of the magma progressively evolved, from calc-alkaline to shoshonitic andesitic to rhyolitic.

Crustal extension within the Property area was dominated by the detachment bounded Biala Reka metamorphic core complex. This structure exposes a crustal section that includes the following tectonostratigraphic units from the structural base to the top:

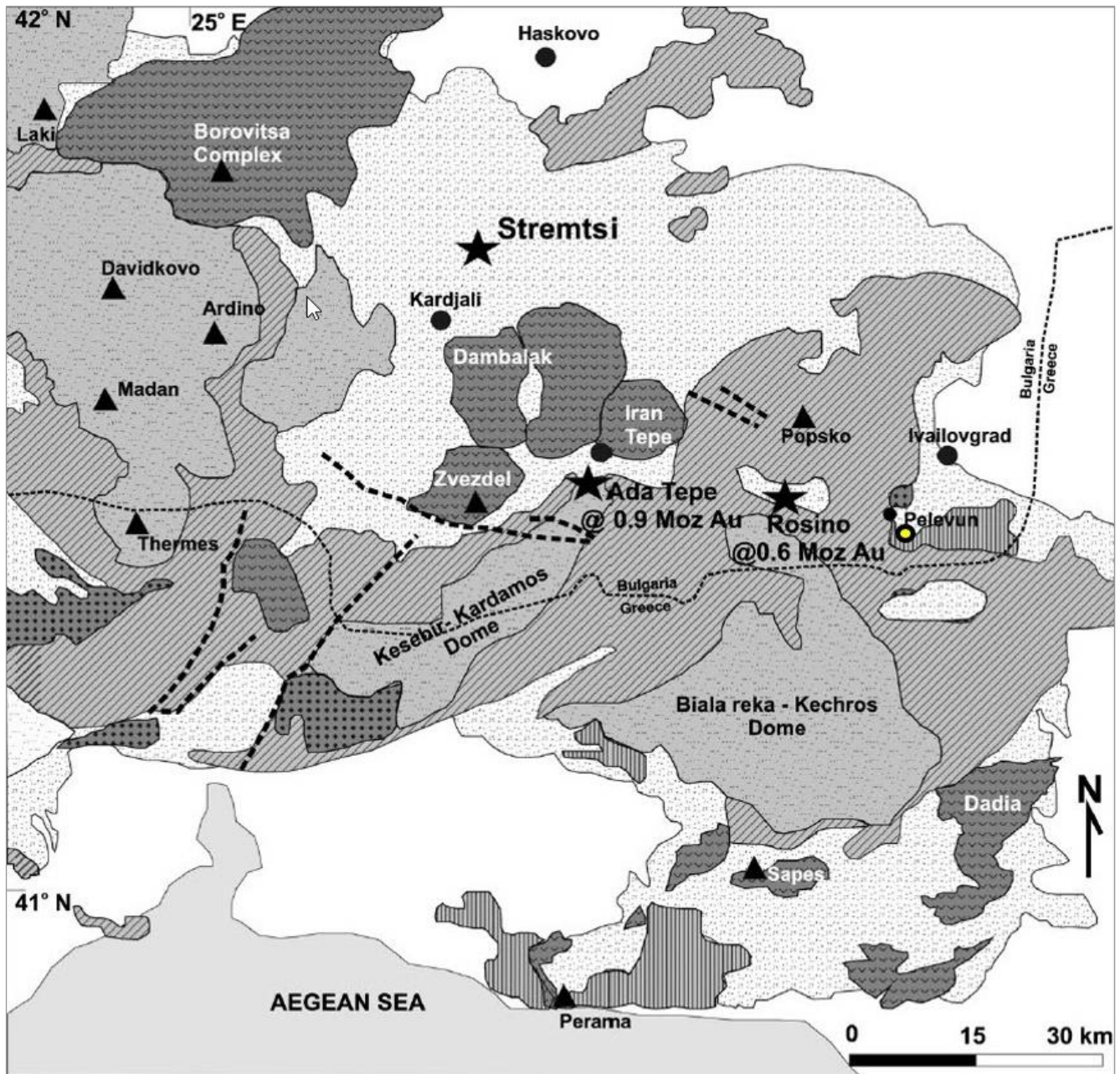
- 1 A lower high-grade metamorphic unit (gneisses, mica-schists and amphibolites).
- 2 An upper high-grade metamorphic basement unit (amphibolites, calc-schists and marbles).
- 3 A low-grade metamorphic unit consisting of Mesozoic rocks of continental margin and intra-oceanic affinity.
- 4 A sedimentary and volcanogenic unit of Maastrichtian / Paleocene-Miocene syn- and post-tectonic cover sequences.

At the base of unit 4, Maastrichtian-Paleocene to Middle Eocene clastics, sedimentary breccias, and conglomerates form part of a syn-tectonic hangingwall suite of supra-detachment half grabens, which occur in faulted contact with the detachments that bound the metamorphic core complexes. They are also limited by graben-bounding faults and are found lying unconformably over the high-grade metamorphic basement units.

Stratigraphically upwards, Middle Eocene clastics are conformably overlain by Upper Eocene-Oligocene clastic rocks, conglomerates, and carbonate-rich sedimentary rocks, which mark a renewed cycle of continental, fresh water to marine sedimentation. They were accompanied by regionally widespread, late Eocene-Oligocene volcanic edifices and sedimentary-volcanogenic successions (Bonev et al., 2013).

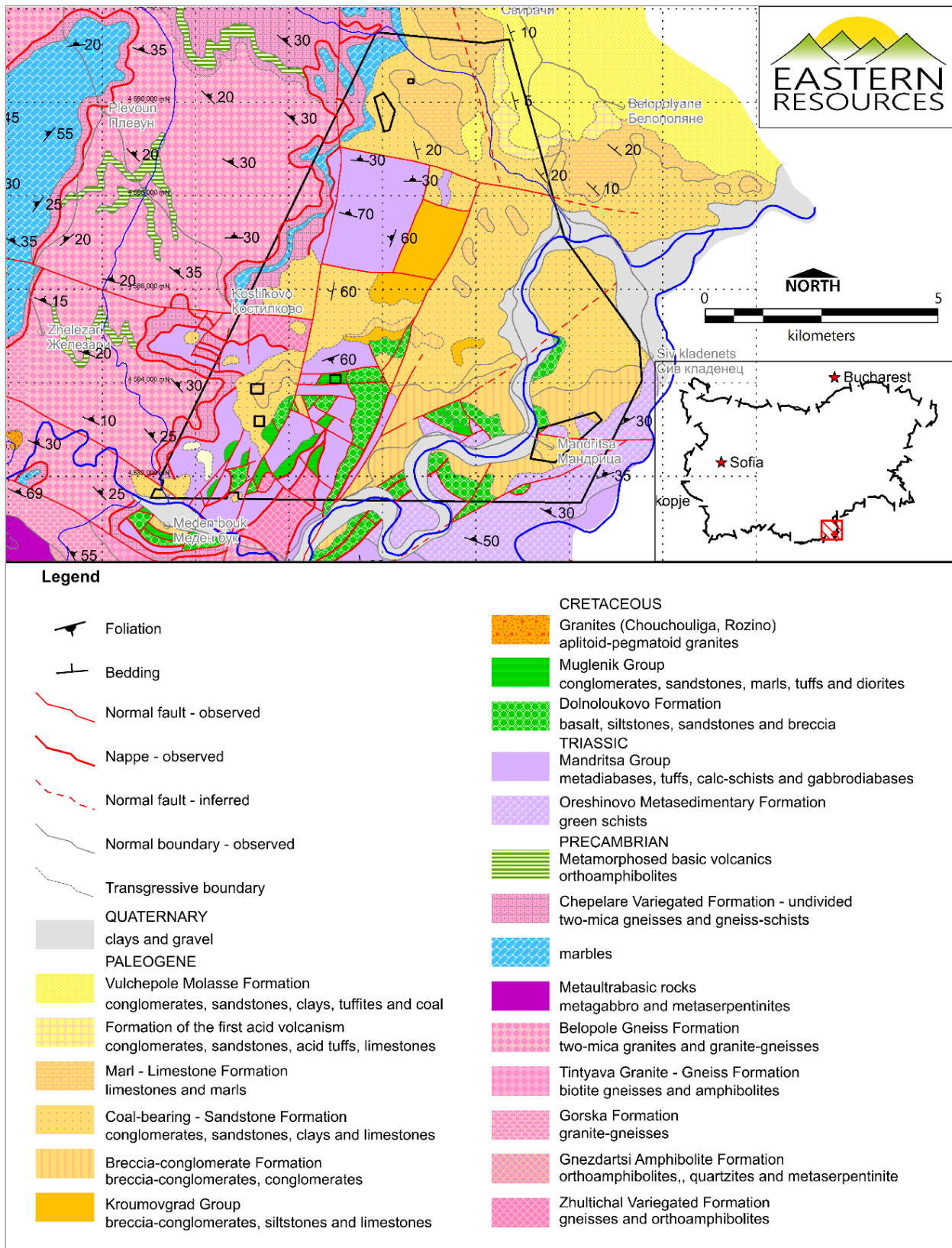
Figure 7.1 presents the simplified geology of the Eastern Rhodope metallogenic province showing the lithotectonic units, Eocene volcanic centers, the main sedimentary rock-hosted gold occurrences (stars: Ada Tepe, Rozino and Stremtsi) and other epithermal mineralization occurrences (triangles). Figure 7.2 shows the geology of the Property.

Figure 7.1 Simplified geologic map of the Eastern Rhodope mountains, southeastern Bulgaria



Note: The yellow circle shows the location of the Property.  
 Source: Márton et al, 2010.

Figure 7.2 Geologic map of the Chukata EL Property



Source: Eastern, 2022.



## 7.2 Local and Project geology

The Project is interpreted by Eastern to host a large (10 km<sup>2</sup>) hydrothermal system, containing abundant evidence for low-sulphidation epithermal mineralization, set primarily within a supra-detachment sedimentary graben, located on the northeastern flank of the Biala Reka metamorphic core complex within the Eastern Rhodope metallogenic province.

Detailed geological mapping of the Project by Eastern has confirmed that the hydrothermal system is primarily hosted within the Krumovgrad Group of sedimentary rocks (breccio-conglomerates, conglomerates, and sandstones) of Maastrichtian / Paleocene-Eocene age.

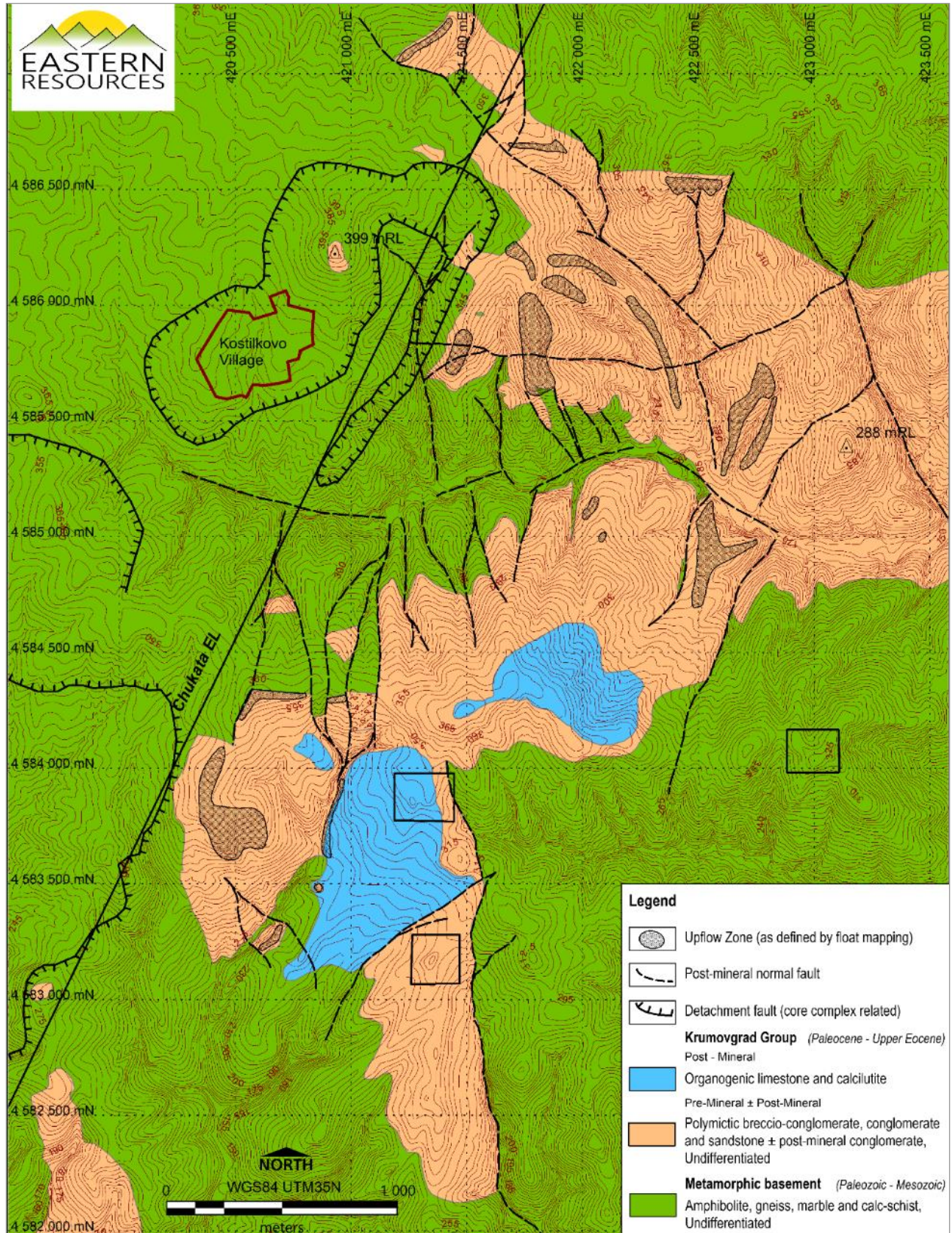
Epithermal mineralization recognized to date is dominated by surface quartz-adularia-illite vein float material. In general, outcropping mineralization is poorly represented. Given the well-developed incised topography over the Project area, Eastern concludes that the identified zones of significant quartz float accumulations must have been derived from the immediate vicinity.

Quartz, chalcedony, adularia (K feldspar), and illite, together with lesser calcite and pyrite (<1 vol. %), are the main hydrothermal minerals. Gold and silver are likely present as electrum. Primary hydrothermal textures recognized from surface quartz vein float material are dominated by crustiform, colloform, cockade and comb forms, together with lattice (±ghost) bladed quartz-replacement textures.

Eastern has not found in situ evidence of any geothermal discharge products i.e., hydrothermal eruption breccia, or siliceous sinter. However, within the northern portion of the Izvorite prospect area, and located at higher elevations, silicified, dark, fine-grained sediments to hydrothermal chert float material have been identified containing gastropod, coralline algae, and macrofossil detritus in mounds. This material has subsequently been crosscut by bluish opaline silica veinlets in places.

Figure 7.3 summarizes the geology of the Kostilkovo Gold Project.

Figure 7.3 Geologic map of the Kostilkovo Gold Project

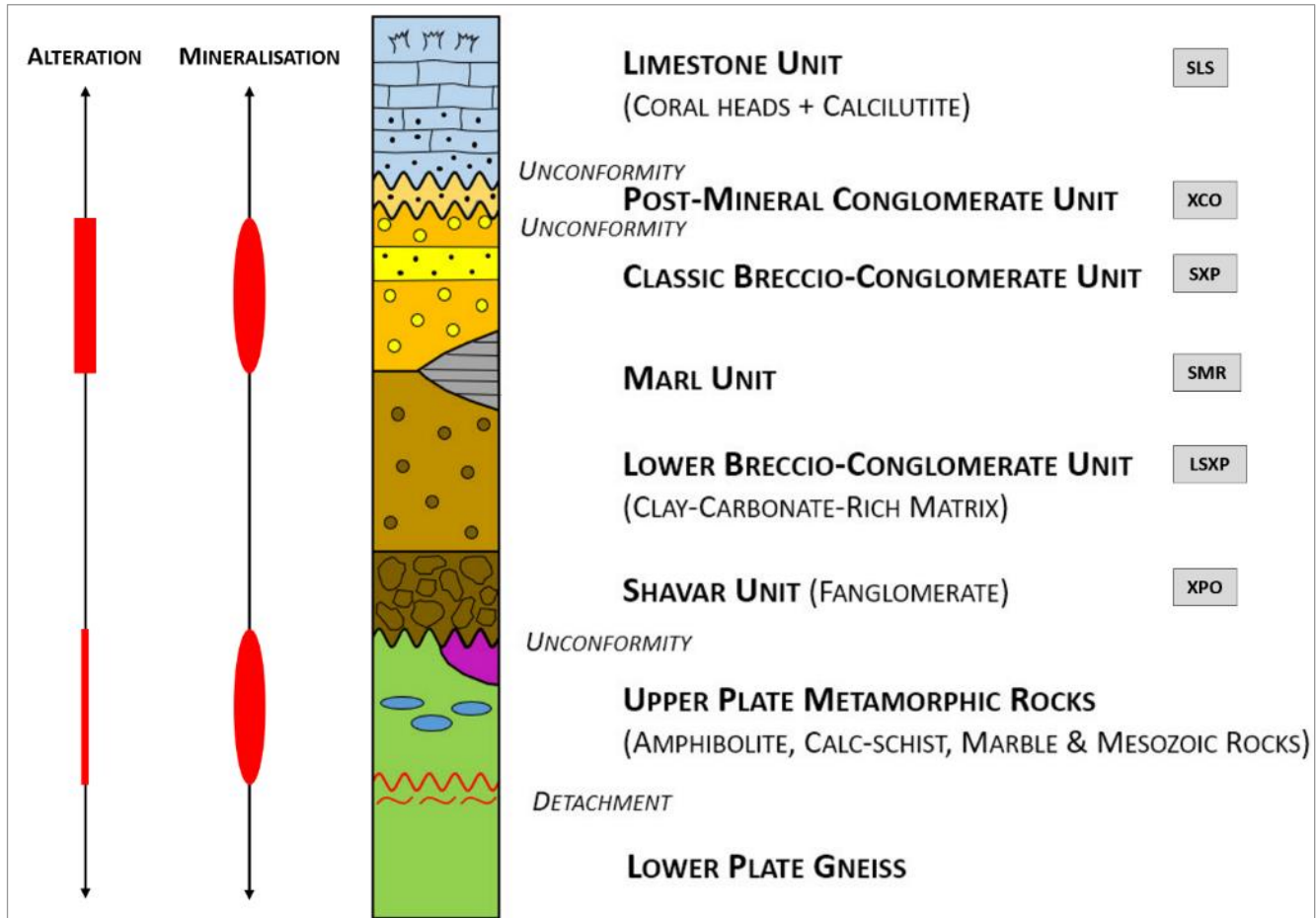


Source: Eastern, 2022.

### 7.3 Stratigraphy

Figure 7.4 shows a simplified stratigraphic column of the Property, illustrating a subdivision into pre-mineral metamorphic and sedimentary rocks, and post-mineral sedimentary rocks.

Figure 7.4 Simplified stratigraphic column of the Project



Source: Eastern, 2022.

#### 7.3.1 Pre-mineral

##### 7.3.1.1 Metamorphic basement rocks

Metamorphic rocks of the upper plate of the metamorphic core complex, which include amphibolites, marbles and calc-schists, form the immediate footwall to the syn-detachment sedimentary half-grabens. Metamorphic rocks of the lower plate are commonly gneisses with porphyroblastic textures. Low metamorphic-grade rocks of the upper plate (Mesozoic) are found across the Property and are commonly represented by greenschists and / or phyllites. Figure 7.5 shows examples of calc-schist rock from drillhole KKDD001, while Figure 7.6 is an example of an amphibolite outcrop on the Project. The unconformably-overlying syn-detachment sedimentary half-grabens are comprised of eroded material derived from the Paleozoic-age metamorphic rock units.

##### 7.3.1.2 Shavar Unit

The base of the Krumovgrad Group sedimentary rocks within the Project is represented by polymictic, decametre-size clasts of metamorphic rocks, commonly clast-supported. The sedimentary matrix, where present, is commonly clay-rich and contains calcium carbonate,

suggesting a submarine depositional environment. This unit, known as the Shavar Unit (XPO) in the local nomenclature (cf. fanglomerate), reaches a thickness of 25 m. The Shavar Unit unconformably overlies the metamorphic basement rocks and is Paleocene-Middle Eocene in age (Goranov, 1992) (Figure 7.7 and Figure 7.8).

Figure 7.5 Calc-schist rock from drillhole KKDD001



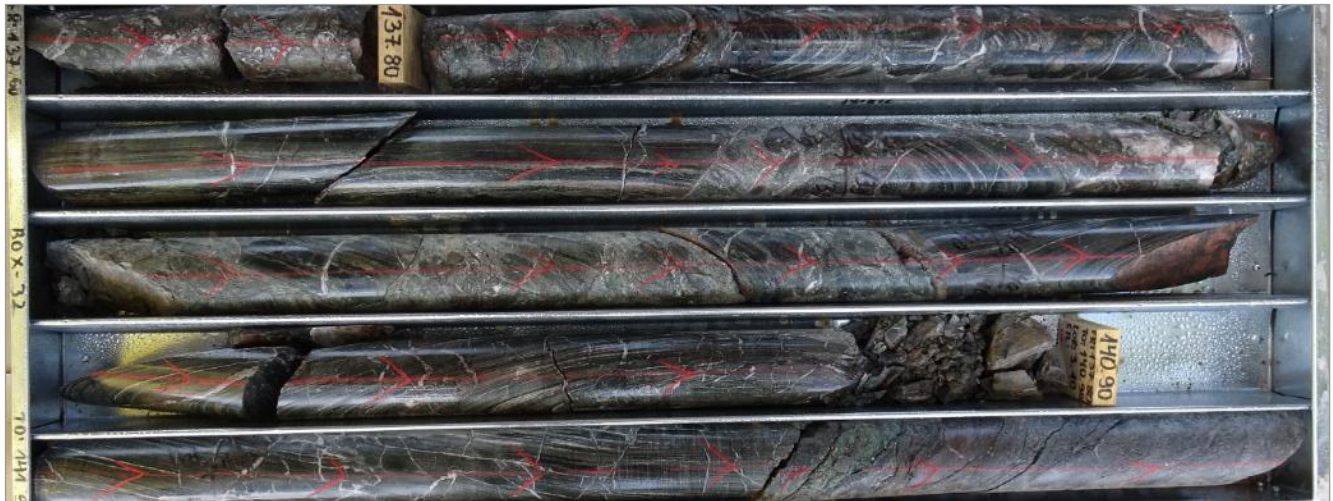
Source: Eastern, 2022.

Figure 7.6 Amphibolite rock outcrop on the Project



Source: Eastern, 2022.

Figure 7.7 Shavar Unit in hole KKDD0010 (137 m)



Source: Eastern, 2022.

Figure 7.8 Shavar Unit in outcrop



Source: Eastern, 2022.

**7.3.1.3 Lower Breccio-Conglomerate Unit**

Conformably overlying the Shavar Unit is the Lower Breccio-Conglomerate Unit (LSXP). The LSXP is represented by polymictic, sub-rounded to sub-angular clasts of metamorphic rocks, commonly  $\leq 1$  m size, with a green or purple, clay-rich matrix that also contains calcium carbonate, suggesting a submarine depositional environment. It is up to 60 m in thickness (Figure 7.9 and Figure 7.10).

Figure 7.9 Lower Breccio-Conglomerate Unit in hole KKDD008 (123 m)



Source: Eastern, 2022.

Figure 7.10 Lower Breccio-Conglomerate Unit in outcrop



Source: Eastern, 2022.

### 7.3.1.4 Marl Unit

The Marl Unit (SMR) has only been observed in the Runkite prospect area where it is conformably overlain by the SXP. The Marl Unit is represented by variously sand-rich and clay-rich portions, a calcium carbonate-rich matrix, carbonate desiccation veinlets, moderate- to high-carbon fragment content, with occasional bedding elements in more sand-rich portions. Abundant evidence for biogenic activity, with occasional bivalve molds, is noted. Syn-sedimentary deformational structures are also common features within this unit (e.g., slumping). The SMR is up to 8 m in thickness (Figure 7.11).

Figure 7.11 Marl Unit in hole KKDD002 (28 m)



Source: Eastern, 2022.

### 7.3.1.5 Classic Breccio-Conglomerate Unit

The Classic Breccio-Conglomerate Unit (CSXP) conformably overlies the LSXP. The Classic Breccio-Conglomerate Unit is represented by polymictic, sub-rounded to sub-angular clasts of metamorphic rocks, commonly  $\leq 1$  m size, with a sand-rich matrix; within this Unit the matrix is commonly composed of  $\geq 30\%$  to 50% quartz by volume. Coarse sandstone layers are common within this unit, which may not necessarily be laterally extensive. It is up to 45 m in thickness. The CSXP (Figure 7.12 and Figure 7.13) makes up greater than 80% of the outcropping / sub-cropping sedimentary rocks within the sedimentary half grabens.

Figure 7.12 Classic Breccio-Conglomerate Unit in hole KKDD0010 (24 m)



Source: Eastern, 2022.

Figure 7.13 Classic Breccio-Conglomerate Unit in outcrop



Source: Eastern, 2022.

## 7.3.2 Post Mineral

### 7.3.2.1 Post Mineral Conglomerate Unit

The Post Mineral Conglomerate Unit (XCO) unconformably overlies the CSXP and is stratigraphically below the Limestone Unit. The Post Mineral Conglomerate Unit is indistinguishable from the CSXP, apart from the presence of altered and generally rounded clasts. These clasts are dominantly lower temperature chalcedonic quartz and silicified sandstone ± conglomerate with lesser amethyst or poorly developed quartz vein fragments. Locally this unit attains a thickness of 44 m. The areal extent of the XCO has not been established (Figure 7.14 and Figure 7.15).



Figure 7.14 Altered Sandstone Clast (in situ within trench KKTR018)



Source: Eastern, 2022.

Figure 7.15 Chalcedonic Quartz Altered Sandstone Clast (KKTR018)



Source: Eastern, 2022.

### 7.3.2.2 Limestone Unit

The Limestone Unit (SLS) unconformably overlies the CSXP and is found across the Project area. However, the Limestone Unit is more extensive within the southern half of the Project. It appears to drape topography and is represented by large ( $\leq 0.5$  m) coral heads at stratigraphically higher locations, grading into a calcilutite, that is variously fossil-rich (bivalves) at lower elevations (Figure 7.16).

Figure 7.16 Limestone Unit (Coral Head)



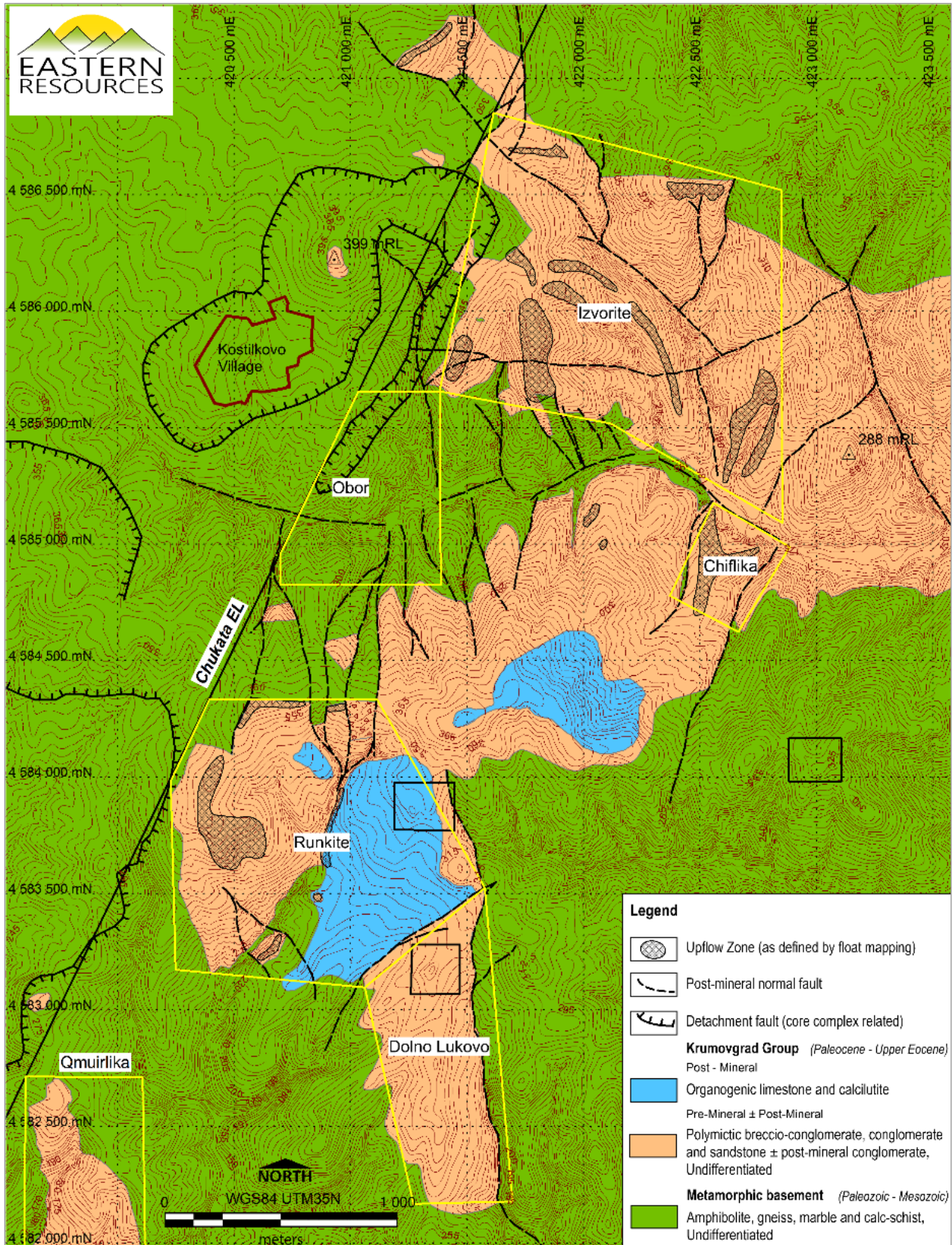
Source: Eastern, 2022.

## 7.4 Geology of prospect areas

The Project has been subdivided into six principal prospect locations (Section 4.1 and Figure 7.17).

The Izvorite prospect area encompasses the northernmost sedimentary half-graben and comprises multiple target areas. The Chiflika area has been designated separately due to its location south of the Kostilkovska River, however mineralization styles are mostly similar to the Izvorite area. The Runkite area comprises most of the southern sedimentary half-graben and includes significant post-mineral limestone-calcilutite cover rocks. The Obor prospect area may represent an upflow zone within metamorphic basement rocks, i.e., the sedimentary cover sequence has been eroded. The Dolno Lukovo and Qmuirlika areas have only recently been defined through mapping and prospecting.

Figure 7.17 Simplified geologic map of the Kostilkovo Gold Project showing prospect areas



Source: Eastern, 2022.

### 7.4.1 Izvorite and Runkite prospect areas

Mapping and prospecting by Eastern have identified multiple mineralized targets in the Izvorite prospect area. The target areas are associated with either a topographic high or a ridgeline which, due to silicification because of gold mineralization-related events, have been preferentially preserved during erosion. Vein quartz in outcrop is very limited across the Project however, vein quartz float blocks ranging from 0.2 m to 2 m are common along slopes immediately below ridgelines and within nearby drainages.

There are some material differences between the Izvorite and Runkite prospect areas, particularly regarding lithological texture, which are summarized in Table 7.1.

Table 7.1 Summary textural and other differences between Izvorite and Runkite prospect areas

Area	Izvorite	Runkite
Dominant textures	Crustiform-colloform, cockade-comb, lattice bladed quartz (widespread), hydrothermal brecciation (minor)	Stockwork, comb, massive (widespread), lattice / ghost bladed quartz (minor), crustiform (minor)
Hydrothermal minerals	Quartz, chalcedony, sericite, adularia, amethyst (widespread), iron oxides (minor), calcite (very minor)	Chalcedony, grey-white quartz, sericite (widespread), iron oxides (minor), adularia (minor)
Au grade ( <i>rock chip only</i> )	Max. 88 g/t; Mean: 1.89 g/t; n=93	Max. 0.26 g/t; Mean: 0.02 g/t; n=68
Geochemistry	Au-Te association	Elevated Sb-As-Hg
Au:Ag	1:4	1:100

Source: Eastern, 2017.

### 7.4.2 Mandritsa prospect area

The Mandritsa prospect is located 6 km to the east of the Project near to the border of the Property and immediately north of the village of Mandritsa. Limited prospecting activity by Eastern has established what appears to be an upflow zone, hosted within Krumovgrad Group sedimentary rocks.

Abundant chalcedonic quartz boulders / float, together with lattice-bladed quartz textures (after platy calcite), have been recognized on or near to topographic highs and within their drainages. Two rock samples have returned high arsenic (296 g/t and 527 g/t) and antimony (20 g/t and 29 g/t) values associated with very low gold and silver values. Figure 7.18 shows examples of lattice-bladed quartz textures and chalcedonic quartz-replaced Classic Breccio-Conglomerate Unit from the Mandritsa prospect area.

Figure 7.18 Hydrothermally altered rocks from the Mandritsa prospect



Source: Eastern, 2022.

## 7.5 Mineralogy

Two styles of gold mineralization have been identified on the Property:

- Classic low-sulphidation epithermal quartz-adularia-illite veins.
- Selective replacement of marble by lattice-bladed quartz ± adularia, illite.

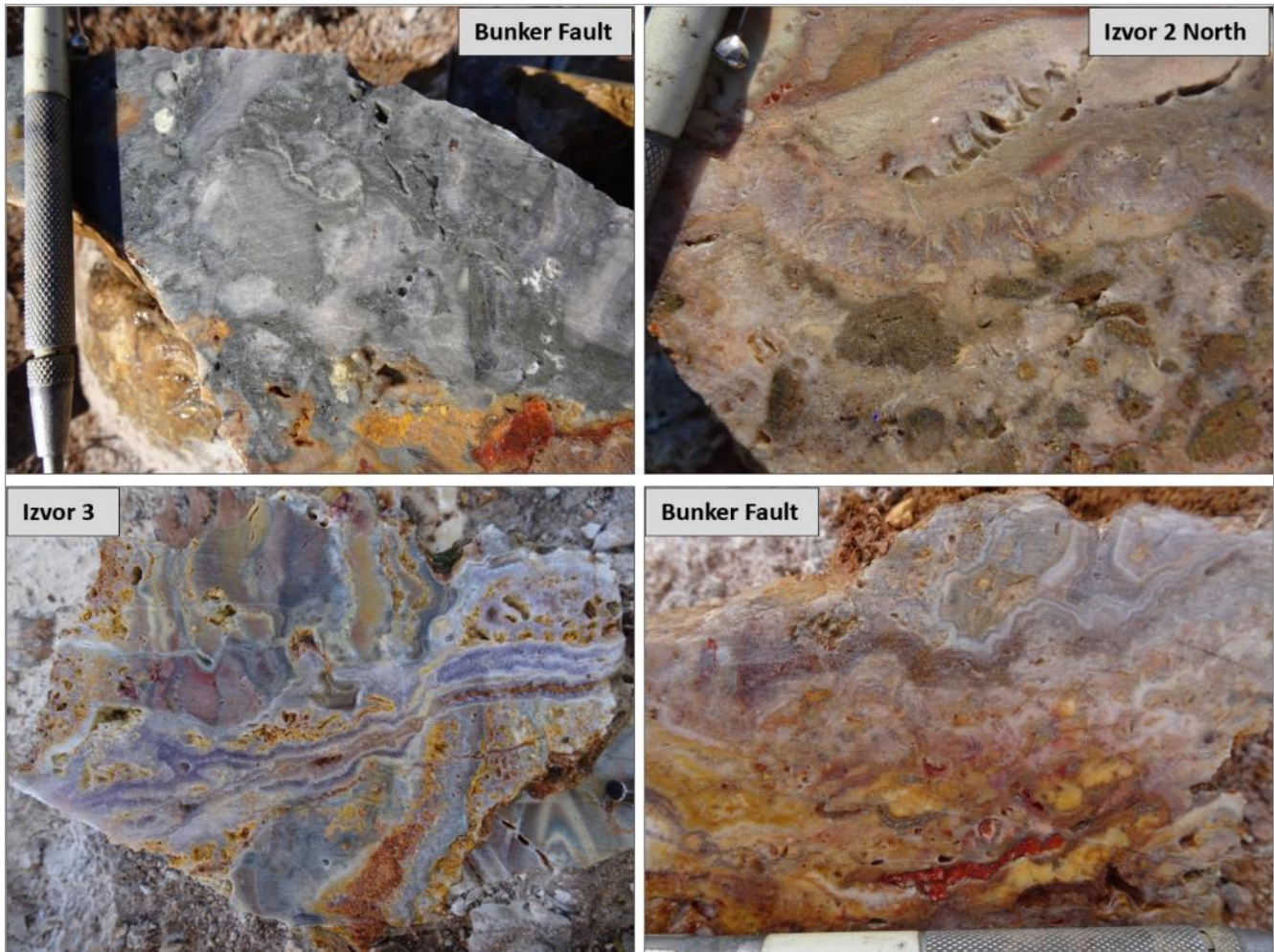
### 7.5.1 Quartz-adularia-illite veins

Quartz-adularia-illite vein float material is exclusively found within the sedimentary rocks of the Krumovgrad Group specifically the Classic Breccio-Conglomerate Unit. This style of gold mineralization is the dominant style found across the Project. Examples of quartz-adularia-illite veins are shown in Figure 7.19.

Quartz-adularia-illite vein material has been subdivided into four principal styles based on texture and gold grade recognized to date (Figure 7.20):

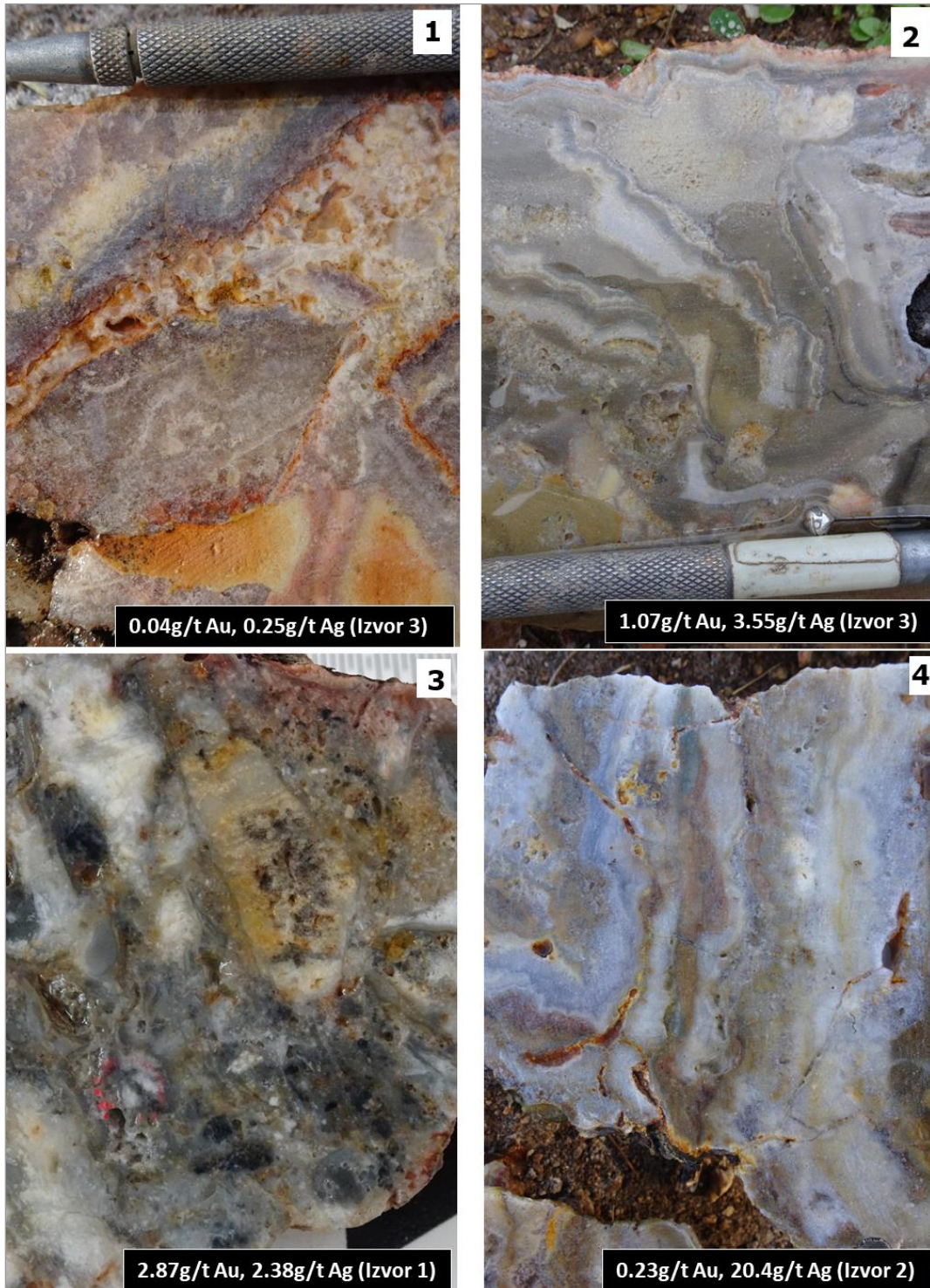
- 1 Banded Crystalline Quartz / Amethyst ± Colloform Bands ( $\leq 0.1$  g/t Au). Commonly overprinting but may be crosscut by chalcedonic quartz.
- 2 Chalcedonic Quartz ( $\sim 1$  g/t Au, maximum: 2.28 g/t Au). Recrystallized chalcedony colloform bands.
- 3 Brecciated Chalcedonic Quartz (2 g/t to 3 g/t Au, maximum: 87.68 g/t Au). Lattice-bladed, pseudo-acicular or chalcedonic quartz infill.
- 4 Colloform-Crustiform Quartz (0.5 g/t to 3.5 g/t Au, maximum: 71.76 g/t Au). Banded chalcedonic and lattice-bladed quartz, pseudo-acicular, adularia, and celadonite.

Figure 7.19 Examples of quartz-adularia-illite vein float material



Source: Eastern, 2022.

Figure 7.20 Examples of the principal quartz-adularia-illite vein styles



Source: Eastern, 2022.

Mineralogical analysis of polished thin sections of quartz-adularia-illite vein float material was undertaken in order to understand the potential mineralogy of the Project and if any gold would be amenable to processing and economic recovery. Table 7.2 summarizes the mineralogical analysis of the thin sections.

Table 7.2 Mineralogical analysis derived from polished thin sections, quartz-adularia-illite vein float material

Sample ID	Major mineral	Minor mineral	Quartz habit & size	Sulfides / oxides / hydroxides / Au	Macroscopic texture	Au ppm	Ag ppm	As ppm	Sb ppm	Location
45914	Quartz >90%	Adularia, Celadonite	Anhedral > Euhedral ≤150 µm	FeOx / FeOH / Sulfides fill ≤5 µm micropores	Brecciated Chalcedonic Quartz	87.68	26	21.6	4.14	Chiflika
45925	Quartz ~70%	Clay (undifferentiated) 5 - 20%	Anhedral 100 - 150 µm; Cryptocrystalline (Chalcedony)	FeOx / FeOH within brown chalcedony	Colloform-Crustiform	71.76	36	33.4	9	Izvorite
45922	Quartz >90%	Adularia, Celadonite	Anhedral > Subhedral ≤30 µm	FeOx / Sulfides / Au fill ≤10 µm micropores	Colloform-Crustiform	3.47	1.95	3.3	1.01	Izvorite
150019	Quartz >90%	Adularia, Clay (Undifferentiated)	Anhedral (Mosaic to Wavy Extinction) ≤50 µm; Later Stage Comb Quartz filling fractures 100 - 150 µm	N/A	Brecciated Chalcedonic Quartz	1.56	45.1	5.8	1.99	Izvorite

Source: Eastern, 2017.



**7.5.2 Selective replacement mineralization**

Selective replacement by quartz of marble layers within the metamorphic basement rocks has been recognized within the western and northern margins of the Izvorite sedimentary half-graben. There appears to be a lithological control on the replacement, i.e., selective replacement follows the orientation of the calc-schist / marble layers. It commonly displays a network of intersecting quartz blades (quartz pseudomorph of bladed carbonate) with polyhedral cavities partly filled with comb quartz crystals. Staining with sodium cobaltinitrite indicates the presence of adularia. Examples of selective replacement mineralization is shown in Figure 7.21.

Figure 7.21 Examples of selective replacement mineralization



Source: Eastern, 2022.

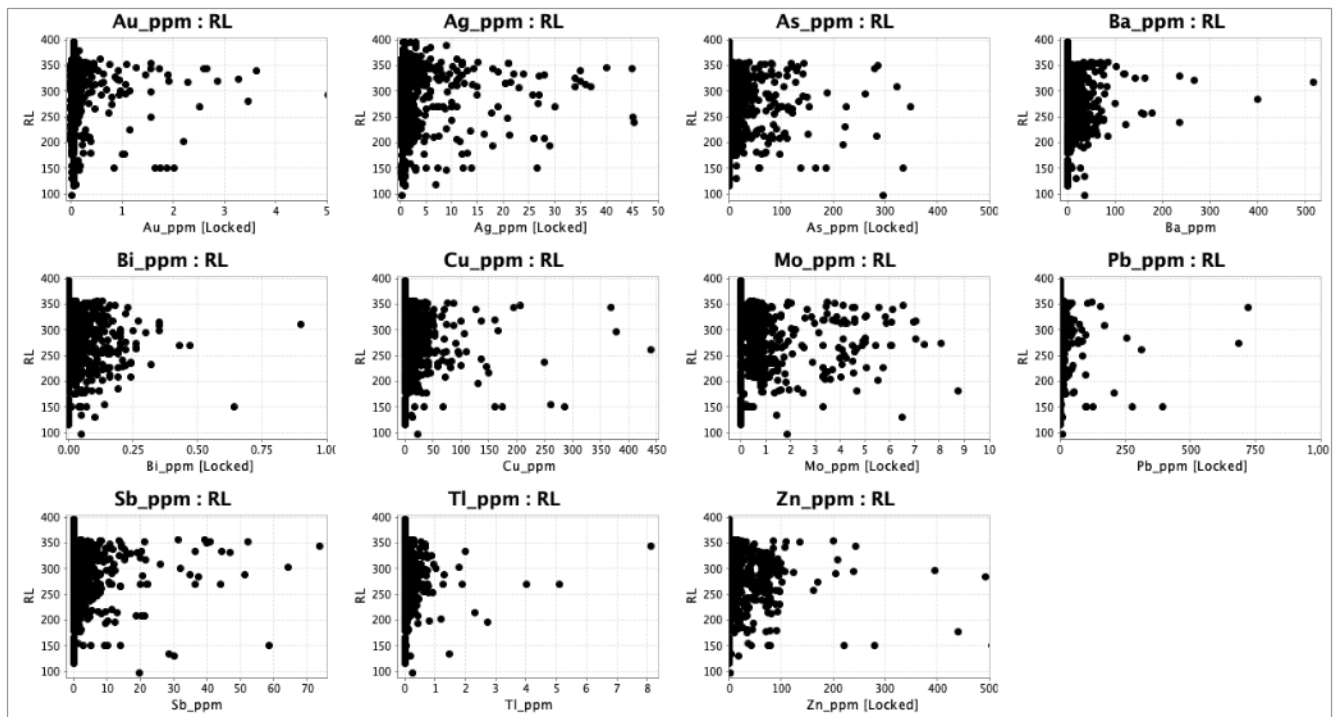
Selective replacement gold mineralization has only been recognized within the Izvorite and Obor prospect areas. Clean marble is relatively impermeable, does not dissolve easily, and will not react quickly with a hydrothermal fluid, particularly since the Project is considered to represent a near-neutral pH, deeply derived, alkali chloride, quartz-adularia-illite geothermal system. The fluid will only become acidic and dissolve carbonate where any sulphide complex is reduced by wall rock reaction (i.e., sulphidation by reaction with iron silicates in the schist / gneiss) or by boiling. Fluid flow is confined to the permeability fabric, which will be the faults and hangingwall fracture systems (assuming the fault has a dip). Selective replacement appears to have a variable gold grade-versus-texture relationship.

**7.6 Geochemistry**

Rock geochemistry indicates that metals of interest detected in rocks on the Project are generally concentrated between 150 m and 350 m RL. Figure 7.22 shows various elements from all rock samples (n=758) across the Project plotted against elevation.

Gold and silver display a vertical range between 150 m RL and 350 m RL, but do not appear to be zoned vertically with respect to each other, except for local high silver-bearing minerals and / or the presence of native silver. Arsenic and antimony both exhibit an upper vertical limit at ~350 m RL with the suggestion of additional levels of metal deposition at ~200 m RL and below 150 m RL.

Figure 7.22 All rock versus elevation for various elements



Source: Eastern, 2020.

**7.7 Epithermal paleosurface**

The paleoclimate of the Eastern Rhodope metallogenic province was humid paratropical during the Eocene and changed to subhumid-temperate conditions at the Eocene-Oligocene boundary (~33.9 Ma). The region was most likely characterized by a relatively low relief topography during the Late Eocene prior to the onset of Oligocene volcanism i.e., the paleo-water table was likely within a few metres of the ground surface.

Márton et al., 2010, reveal a dramatic change in the geodynamic evolution of the Eastern Rhodope metallogenic province at ~33 Ma to 30 Ma, with the onset of horst-graben tectonics, which followed the detachment faulting and half graben formation, resulting in the rapid exhumation of the upper plate, together with the incorporated (Late Eocene) paleogeothermal systems. Clearly, this event, together with uplift and erosion to the current topographic landscape, will have had a considerable impact on the preservation potential of the Late Eocene paleogeothermal systems under discussion.

In active epithermal systems, pressure gradients are controlled by the hydrostatic pressure that, in turn, is determined by the groundwater table and ground surface. Geothermal systems hosted within low-relief terrain commonly discharge neutral-pH, alkali-chloride waters along streams and on lake margins and bottoms; fluvio-lacustrine sedimentation is commonplace in this environment. Chert can form where hydrothermal fluids undergo cooling as they debouch on the floors of shallow lakes; in principle, transitions can occur between hydrothermal chert deposits and the distal wetland facies of sinter aprons (Sillitoe, 2015).

The Company has not yet found in situ evidence of any geothermal discharge products i.e., hydrothermal eruption breccia, siliceous sinter. However, within the northern portion of Izvorite prospect area, silicified, dark, fine-grained sediments to hydrothermal chert float material have been identified containing gastropod, coralline (red) algae and macrofossil detritus in moulds. This material has subsequently been cross-cut by bluish opaline silica veinlets in places, testifying to extremely shallow- and cool-water depositional conditions at, or near, the paleosurface.

Figure 7.23 shows coralline (red) algae detritus rock; completely replaced by a silica polymorph (chalcedony after opal?) and preserving the algal morphology; minor blue opaline silica with colloform texture selectively replaces algal detritus.

Figure 7.23 Coralline (red) algae detritus rock float from north Izvorite prospect area



Source: Eastern, 2022.

## 7.8 Structure

There are two dominant structural trends in the Project:

- WNW-ESE half-graben normal faults, mostly south-block down, pre-(syn) mineral.
- NNE-SSW faults (steep), pre-(syn) mineral, parallel to the regional extension direction (pre-existing metamorphic basement structures).

Assuming a regional NNE-SSW extensional direction, the NNE-trending steep faults may have a strike-slip component with local, steep, jog-like dilation zones which promoted upflow zone access to higher stratigraphic levels. The WNW-trending half-graben faults and parallel structures will be highly extensional and potentially host quartz veins and gold deposition.

## 8 Deposit types

### 8.1 Quartz-adularia-illite vein systems (low-sulphidation epithermal)

Epithermal precious metal deposits form in the shallow parts of volcanic fields, including associated volcano-sedimentary basins, typically at paleodepths of less than one kilometer. Hence, many are accompanied by surface and near-surface hydrothermal manifestations albeit generally devoid of economic precious metal concentrations (Sillitoe, 2015).

Quartz-adularia-illite epithermal mineralization is distinguished by its intimate association with quartz ± calcite ± adularia ± illite that forms from the near-neutral pH chloride waters in extinct geothermal systems. Quartz and / or chalcedony dominate, accompanied by lesser and variable amounts of adularia, calcite, pyrite, illite, chlorite ± gold, and silver.

These types of deposits are characteristic of rift settings (back-arc) in which bimodal (basalt-rhyolite) volcanism and fluvio-lacustrine sedimentation are commonplace. Metal often occurs in veins and stockworks, making up subvertical fractures.

Quartz-adularia-illite vein systems are also distinguished by their gangue mineral textures. Crustiform banded quartz is common, typically with interbanded, discontinuous bands of sulphide minerals (mainly pyrite) and / or selenide minerals, adularia and / or illite. At relatively shallow depths, the bands are colloform in texture and millimeter-scale, whereas at greater depths, the quartz becomes more coarsely crystalline. Lattice textures, comprised of platy calcite and its quartz pseudomorphs, occur as open-space filling in veins and, along with vein adularia, indicate boiling fluids of near-neutral pH (Simmons et al., 2005).

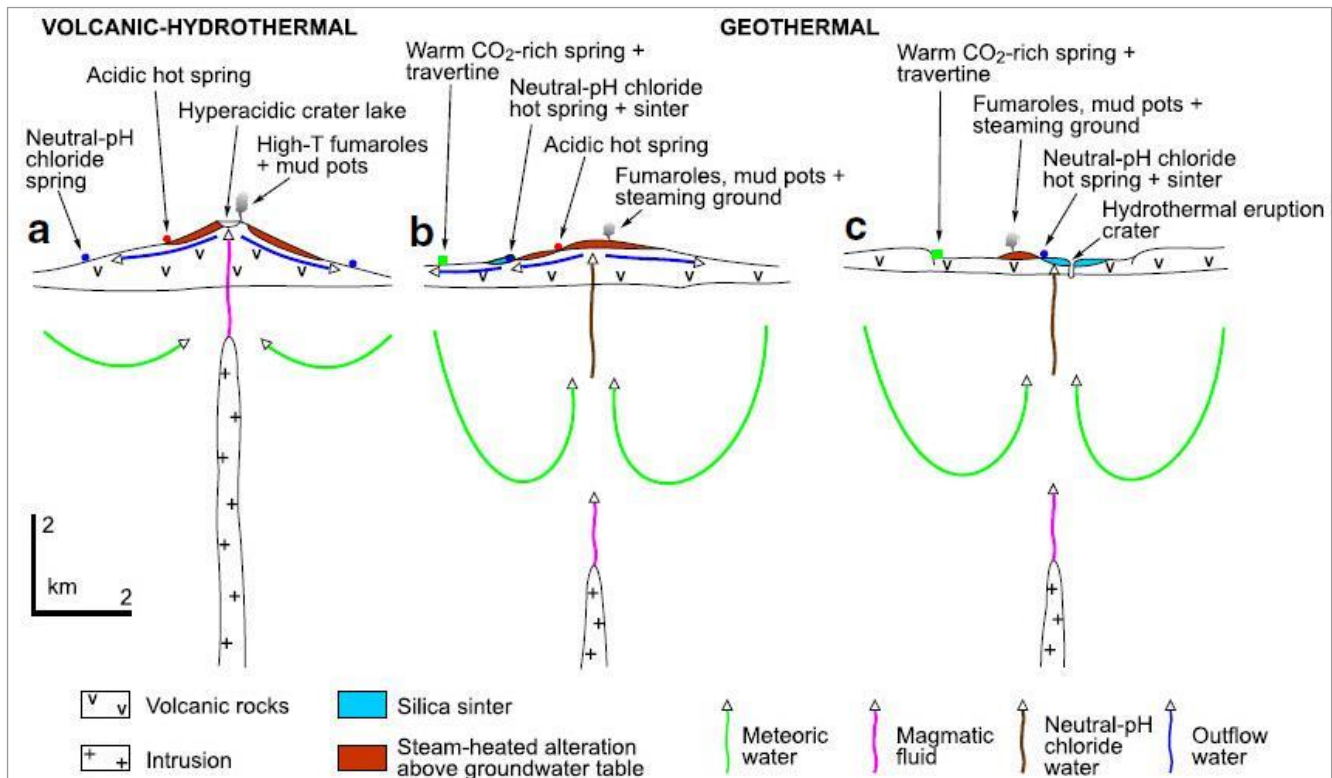
Breccias in veins and subvertical pipes commonly show evidence of multiple episodes of formation. They comprise jumbled angular clasts of altered host rock and earlier vein fill, supported by a matrix of mainly quartz, calcite and / or adularia and sulfide minerals, suggesting rapid pressure release and violent formation that can be ascribed to seismicity and hydrothermal eruptions (Simmons et al., 2005).

Among the most important processes affecting metal accumulation in quartz-adularia-illite vein systems are metal transport and deposition, and the formation of orebodies over a restricted vertical interval, a few hundred meters maximum. Metal precipitation is due to focused fluid flow within a well-developed permeability fabric ('upflow zone') and boiling ± mixing. Boiling is a highly efficient mechanism for removing most gold and silver from solution. Boiling also causes precipitation of adularia, platy calcite, and colloform-banded, amorphous silica.

Common paleosurface discharge products associated with quartz-adularia-illite vein systems are sinters, hydrothermal explosion breccias (also referred to as phreatic breccias) and steam-heated alteration located above the paleo-water table.

Figure 8.1 shows a schematic representation of active, high-temperature hydrothermal systems and their principal surface features.

Figure 8.1 Representation (c) of a quartz-adularia-illite geothermal system and its surface features



Source: Sillitoe, 2015.

## 8.2 Eastern Rhodope quartz-adularia-illite geothermal systems

Quartz-adularia-illite paleogeothermal systems are known from throughout the Eastern Rhodope metallogenic province and are peculiar in that they have no association with volcanic activity i.e., they have formed pre-volcanism and are commonly hosted within sedimentary rocks and / or metamorphic basement rocks.

Within the Eastern Rhodope metallogenic province the known sedimentary rock-hosted gold deposits and / or occurrences represent the oldest known Tertiary mineralization event, and they are dominantly hosted by Maastrichtian-Paleocene, supra-detachment sedimentary rocks (Krumovgrad Group) and include:

- Ada Tepe gold deposit
- Rozino gold deposit
- Stremtsi occurrence

The age of these deposits is clearly constrained as Late Eocene ( $35.36 \pm 0.21$  Ma to  $34.71 \pm 0.16$  Ma (Ada Tepe),  $36.45 \pm 0.25$  Ma (Rozino) and  $37.51 \pm 0.31$  Ma (Stremtsi) (Marchev et al., 2004, Márton et al., 2010, Moritz et al., 2010).

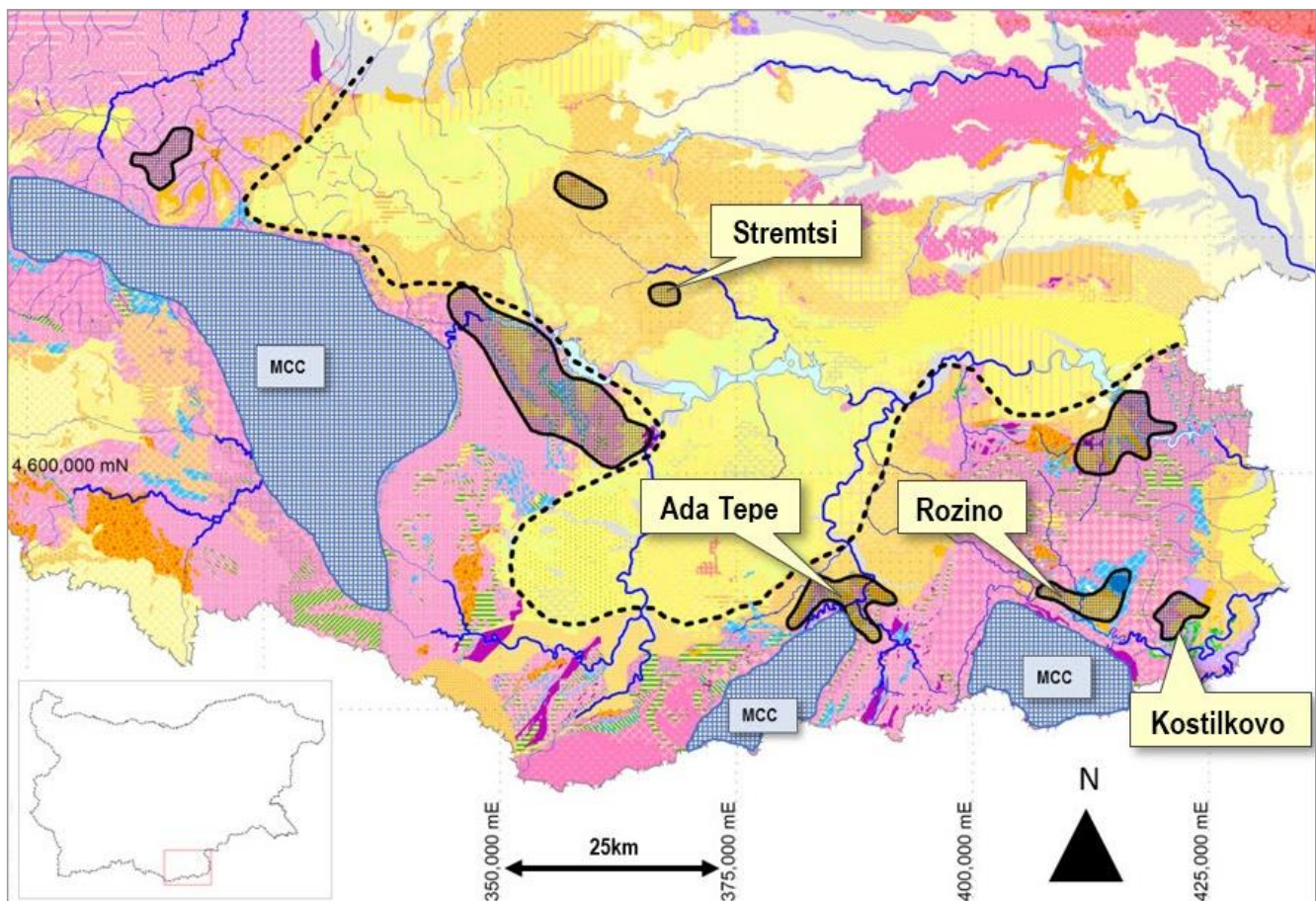
The nearest volcanic complex to Kostilkovo is Madjarovo, approximately 25 km to the north-west, where volcanic activity began  $\sim 32.7$  Ma and terminated  $\sim 500$  ka later (Marchev and Singer, 2002). Thus, geothermal activity at Rozino can preclude both Ada Tepe and Madjarovo as a potential heat source. The Kostilkovo Gold Project has no known age constraints. The regional heat accumulated during supra-detachment sedimentary graben formation; the high thermal heat flow due to ongoing crustal extension, together with potentially contemporaneous magmatism (at depth), remain

feasible mechanisms for the development of generating large geothermal systems within the Eastern Rhodope metallogenic province during the Late Eocene.

The Kostilkovo fossil geothermal system was a boiling hydrothermal system hosted by a sequence of Maastrichtian / Paleocene-Eocene sedimentary rocks (Krumovgrad Group) and Paleozoic metamorphic rocks located on the northeastern margin of the large Biala Reka metamorphic core complex.

Figure 8.2 shows the locations of the known quartz-adularia-illite paleogeothermal systems within the Eastern Rhodope metallogenic province. The black dashed line shows the approximate boundary between the older sedimentary rocks and the younger, post-mineral volcanic rocks (located north of the dashed line) and metamorphic core complexes are labelled as MCC.

Figure 8.2 Eastern Rhodope metallogenic province: Quartz-adularia-illite paleogeothermal systems



Source: Eastern, 2020.

### 8.3 Mineralization model

When exploring for quartz-adularia-illite vein systems on the Property, Eastern has applied the findings of “The Textural Zoning Model” created by Morrison, Dong and Jaireth in 1990, which in turn was based on the original “Buchanan Model” from 1981.

In the “Textural Zoning Model” (Figure 8.3) the precious metal interval essentially corresponds to the Crustiform-Colloform textural Superzone. In practice this generalization holds very well. Most importantly, the Chalcedonic Superzone which is poorly mineralized overlies the well-mineralized

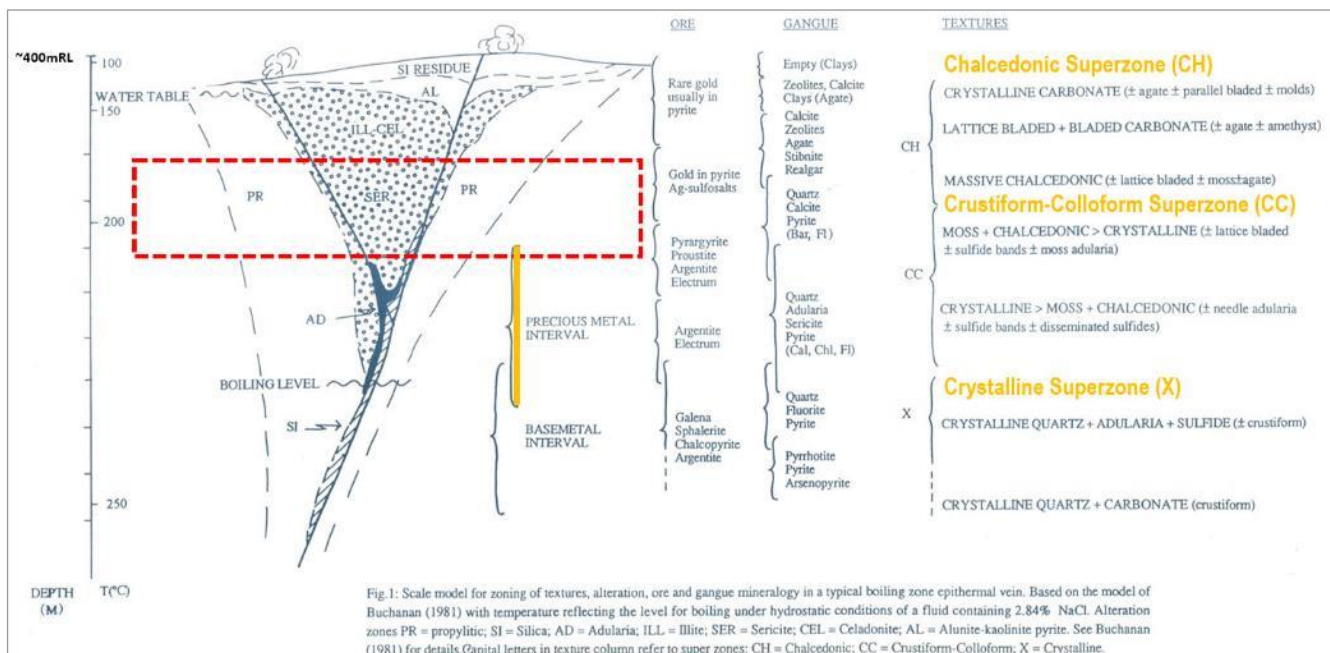
Crustiform-Colloform Superzone. In mineralized systems the general experience is that samples from the Chalcedonic Superzone carry anomalous gold grades whereas samples from the Chalcedonic Superzone in poorly mineralized systems are barren.

Poor assays of samples from the Crustiform-Colloform Superzone are generally discouraging for the system as a whole, but ore shoot characteristics, particularly vein breccias, should be carefully checked.

The ideal indicator for grade has well-developed crustiform and colloform bands, with or without breccia texture, but with good sulfide bands, moss, or needle adularia and saccharoidal or zoned quartz crystals.

Figure 8.3 shows where the current exposure of upflow zones within the Project would fall within the red-highlighted vertical extent i.e., at or just above the precious metal interval.

Figure 8.3 Example of the textural zoning model as applied to the Kostilkovo Gold Project



Source: Modified after Morrison et al., 1990.

### 8.4 Project exploration model

Eastern has identified a large (10 km<sup>2</sup>) quartz-adularia-illite paleogeothermal system, that is supported by a strong and extensive gold surface geochemical soil response.

Quartz-adularia-illite vein float material is exclusively found within the sedimentary rocks of the Krumovgrad Group, specifically the Classic Breccio-Conglomerate Unit. This style of gold mineralization is the dominant style found across the Project. Figure 8.5 shows examples of quartz-adularia-illite vein float material from across the Project (from the Izvorite prospect area in the north to the Qmuirlika prospect area in the south) with included fragments of sandstone and / or conglomerate (outlined in yellow), clearly indicating that quartz vein formation occurred within the sedimentary rocks of the Krumovgrad Group.



Detailed mapping, prospecting, sampling, and textural analysis of quartz-adularia-illite vein float material has established the existence of multiple upflow zones, within which the targeted quartz vein-hosted gold mineralization will be associated with.

Importantly, Eastern has established that the precious metal accumulation zone is located below or close to the current level of exposure on the Project. Pieces of these quartz veins have returned 87.68 g/t Au (Chiflika prospect area) and 71.76 g/t Au (Izvorite prospect area), indicating that the upflow zones may be capable of hosting bonanza gold grades within quartz veins at depth.

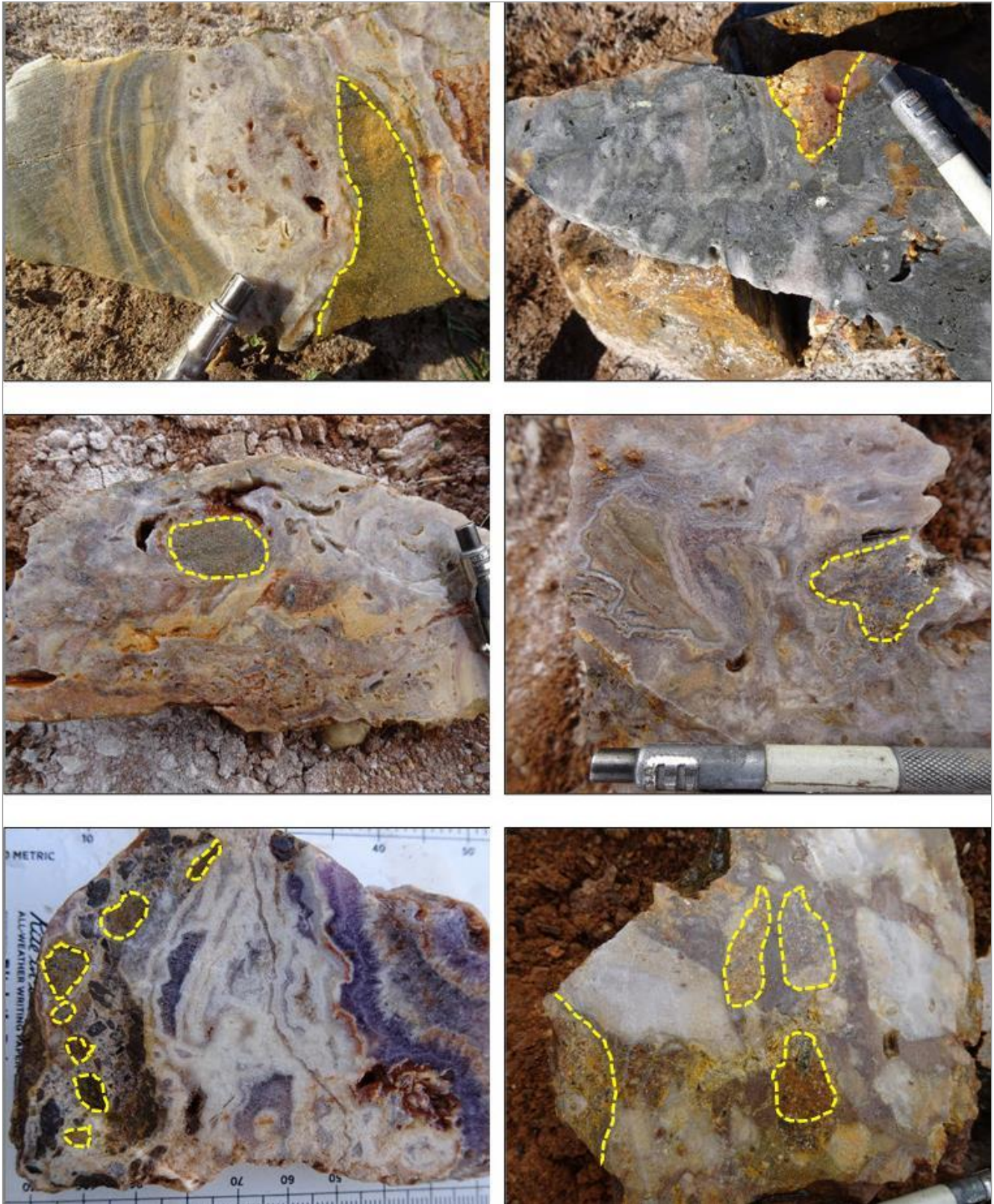
More than 80% of the outcropping (or subcropping) sedimentary rocks within the half-grabens are represented by the Classic Breccio-Conglomerate Unit. The Shavar and Lower Breccio-Conglomerate Units are restricted to lower levels within the excised topography; commonly outcropping within creeks / drainages. No hydrothermal alteration or gold mineralization has yet been recognized within the Shavar and Lower Breccio-Conglomerate Units, either in outcrop, diamond drilling, or trenching.

Metamorphic basement rocks contain gold mineralization proximal to and beneath the sedimentary rocks within the northern half-graben (Izvorite and Obor prospect areas only to date). There appears to be a lithological control i.e., selective replacement follows the orientation of the calc-schist / marble layers. Foliation within metamorphic basement rocks and bedding within the sedimentary rocks are in general subhorizontal across the Property, which suggest that post-mineral tilting is minimal.

Eastern currently assumes that the primary permeability structure to mineralization would have a subvertical to vertical component and would be controlled by rock type and fractures.

Eastern believes, from a quartz vein-forming point of view, that the controls to mineralization favour structural over lithological; there may be the potential for a lithological control (e.g., aquitards) to gold mineralization on the local scale. Examples of quartz-adularia-illite vein float material, with included fragments of sandstone and / or conglomerate from across the Project are presented in Figure 8.4.

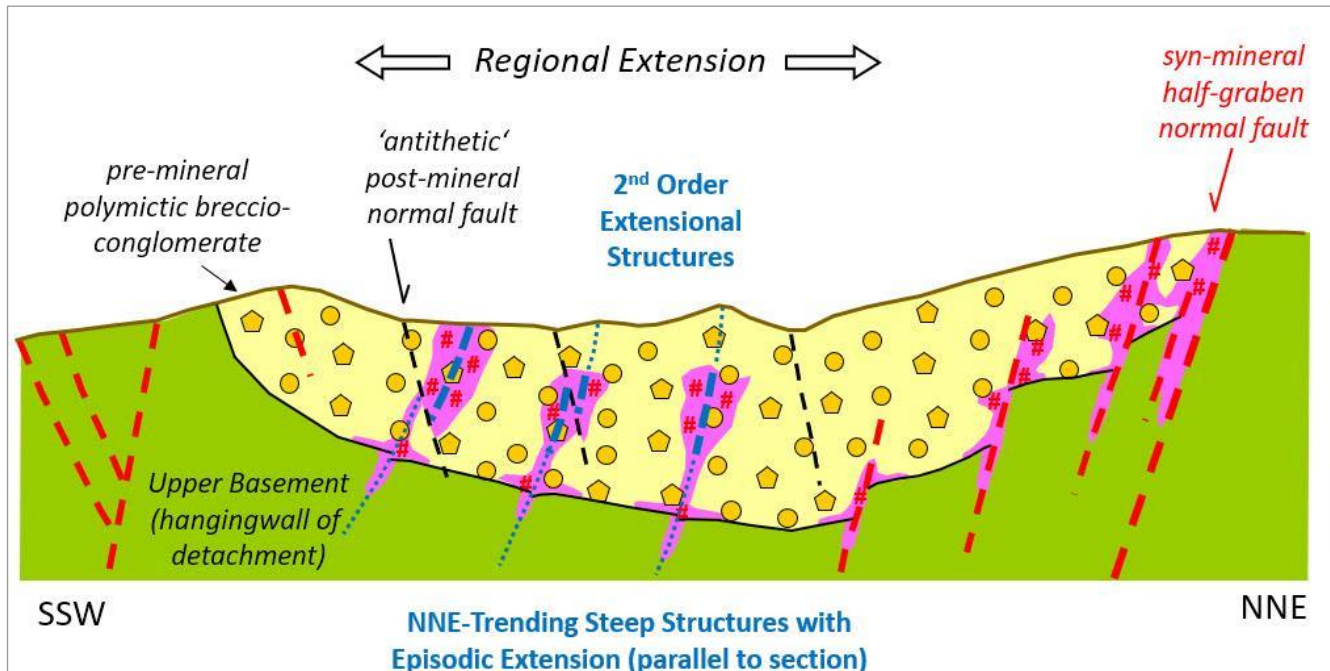
Figure 8.4 Examples of quartz-adularia-illite vein float material



Source: Eastern, 2022.

Figure 8.5 shows the conceptual exploration model developed by Eastern, based on all geological observations made to date on the Project. The example used is from the Izvorite prospect area, however the conceptual exploration model is also applicable to the Runkite prospect area.

Figure 8.5 Conceptual exploration model for the occurrence of quartz-adularia-illite veins on the Kostilkovo Gold Project based on the Izvorite prospect area



Source: Eastern, 2022.

## 9 Exploration

### 9.1 Overview

Eastern has carried out the following exploration work on the Property, with focus being on the Project area.

- Compilation and assessment of all available historical exploration data.
- Handheld radiometric surveys across the Izvorite and Chiflika prospect areas.
- Limited 1:25,000 mapping and prospecting over the greater-Property license area.
- 1:5,000 scale geological mapping of the Project area (15 km<sup>2</sup>).
- Geological prospecting, including gold panning, and rock / float sampling (343 samples).
- Excavation and sampling of 24 trenches, for a total length of 1,161 m, and 42 assays.
- Drilling of 19 diamond drillholes for a total of 2,331 m and 126 samples assayed.

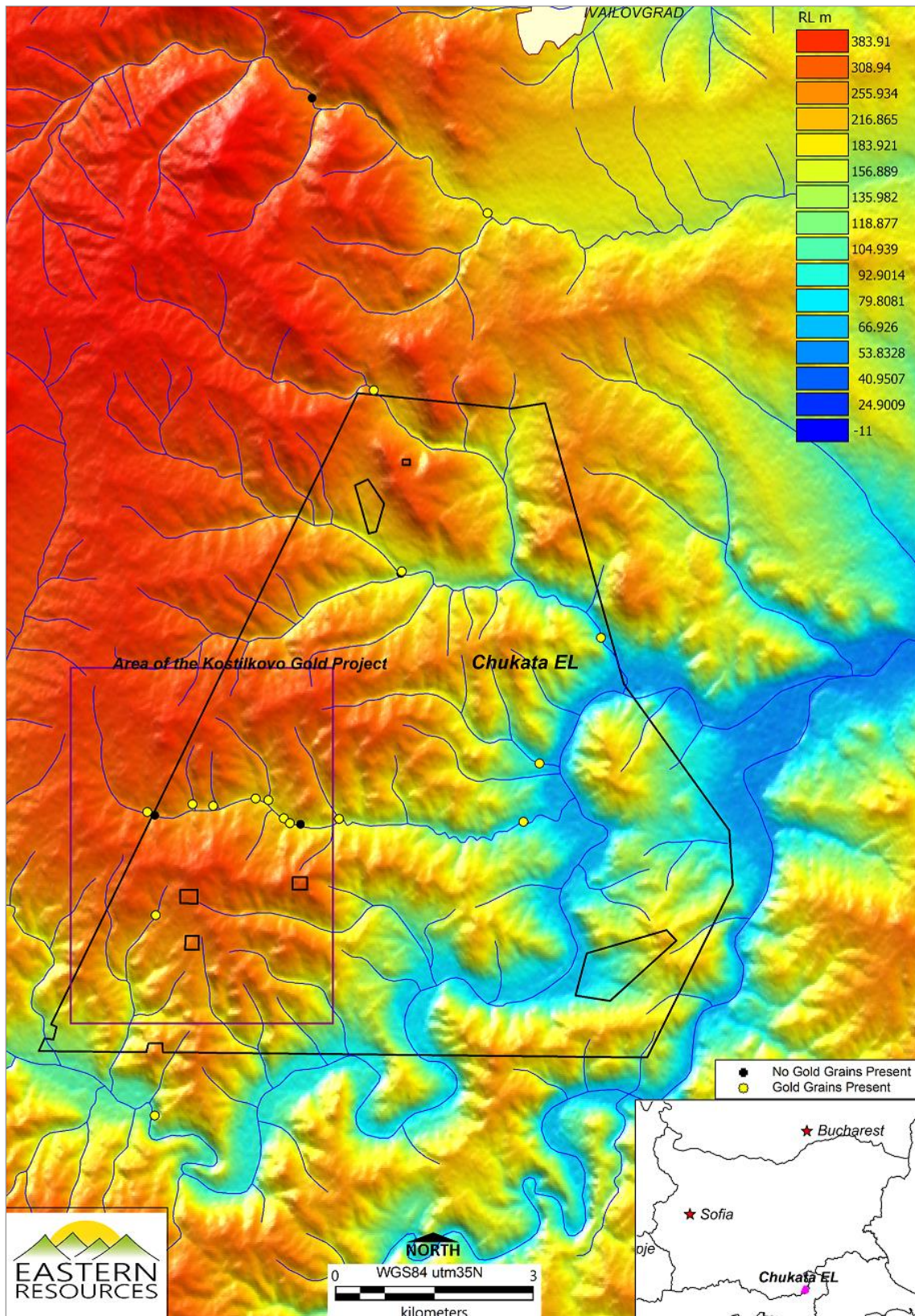
### 9.2 Gold panning within the Project and the Property

During 2017 Eastern sponsored a Sofia University expedition to the Property. The objective of the study was to collect pan samples from the drainages within the Izvorite and Runkite prospect areas, together with some of the other major drainages within the Property. Figure 9.1 and Figure 9.2 show the sample locations respectively within the Property and on the Project.

A total of 20 sites were sampled, of which only 4 recorded no gold grains. The average number of gold grains per site was nine, with a range from 2 to 24. The average gold grain size was 390 µm (Figure 9.3).

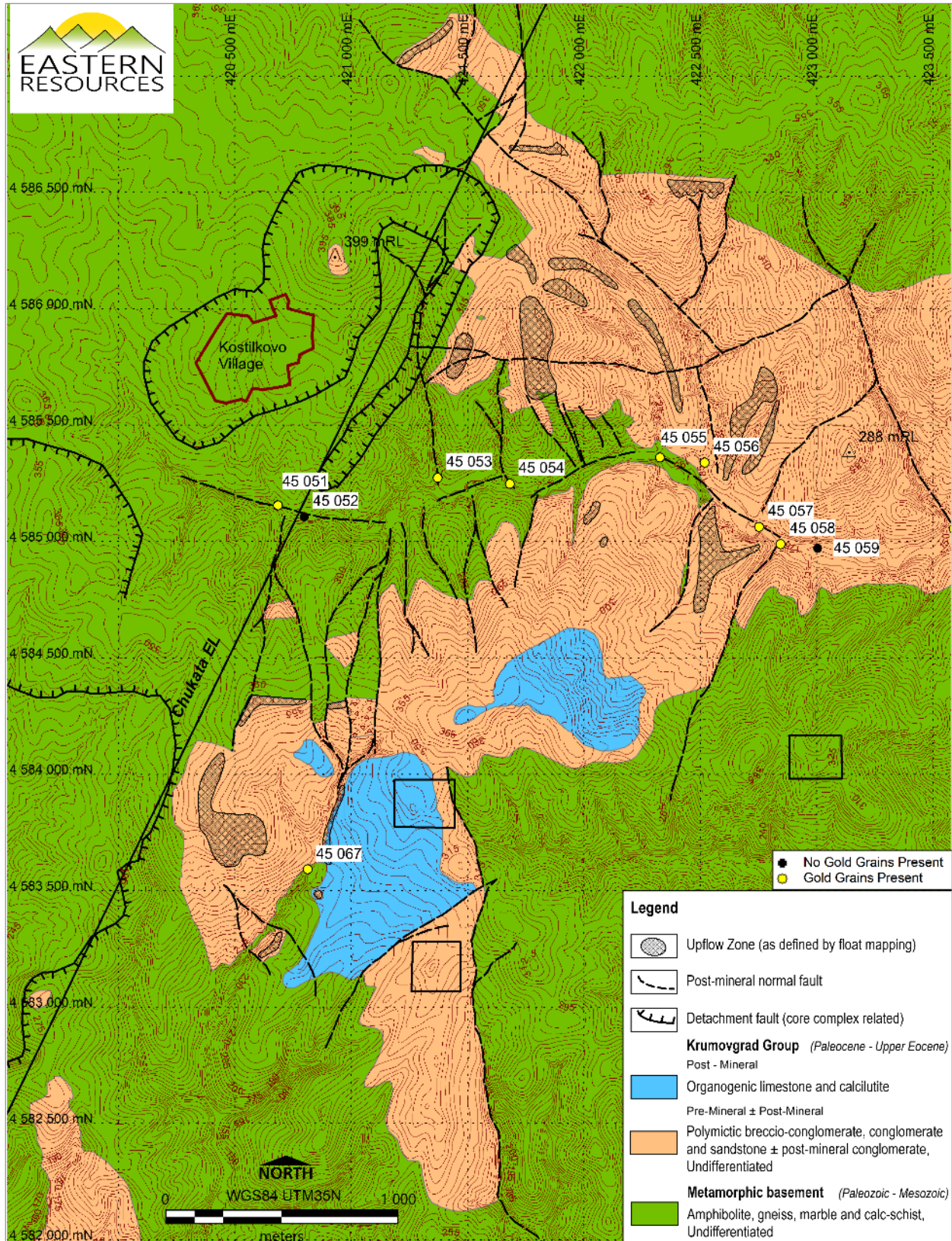
The gold grains were analyzed using a Scanning Electron Microscope with Energy Dispersive X-ray Spectrometry System (JEOL JSM-6010 PLUS/LA) at the University of Geology and Mining, Sofia. This work determined that the gold grains were electrum, with an average composition of Au 75:Ag 25 (Yovchev, 2017).

Figure 9.1 Location of gold panning sites within the Property



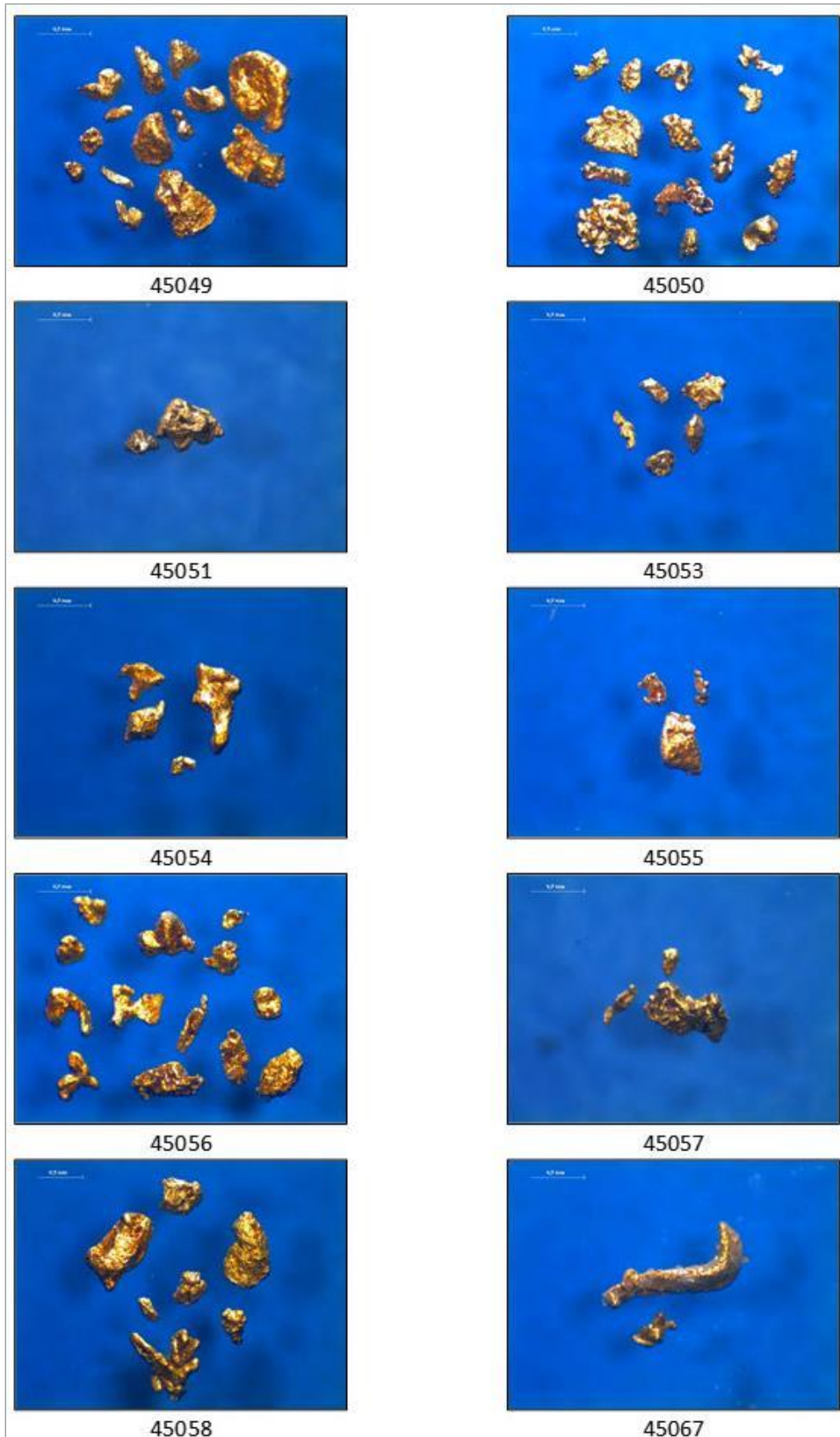
Source: Eastern, 2017.

Figure 9.2 Location of gold panning sites within the Project



Source: Eastern, 2017.

Figure 9.3 Examples of gold grains from the Izvorite and Runkite prospect areas



Source: Eastern, 2017.

## 9.3 Handheld geophysical survey

During the summer of 2020 Eastern conducted handheld geophysical surveys across the Izvorite and Chiflika prospect areas to verify the results of the Bulgarian State airborne geophysical survey. The survey was designed to provide data at a greater spatial resolution than that derived from the aeroradiometric data and essentially represented a 'proof of concept' assessment to justify (or not) the continued use of radiometric surveys across the Property.

A RS-230 BGO Super-SPEC portable radiation detector was used to record K, U, Th, and Total Count from 780 individual survey points. All recordings were taken for a minimum of 120 seconds. The results are presented in Figure 9.4, Figure 9.5, and Figure 9.6.

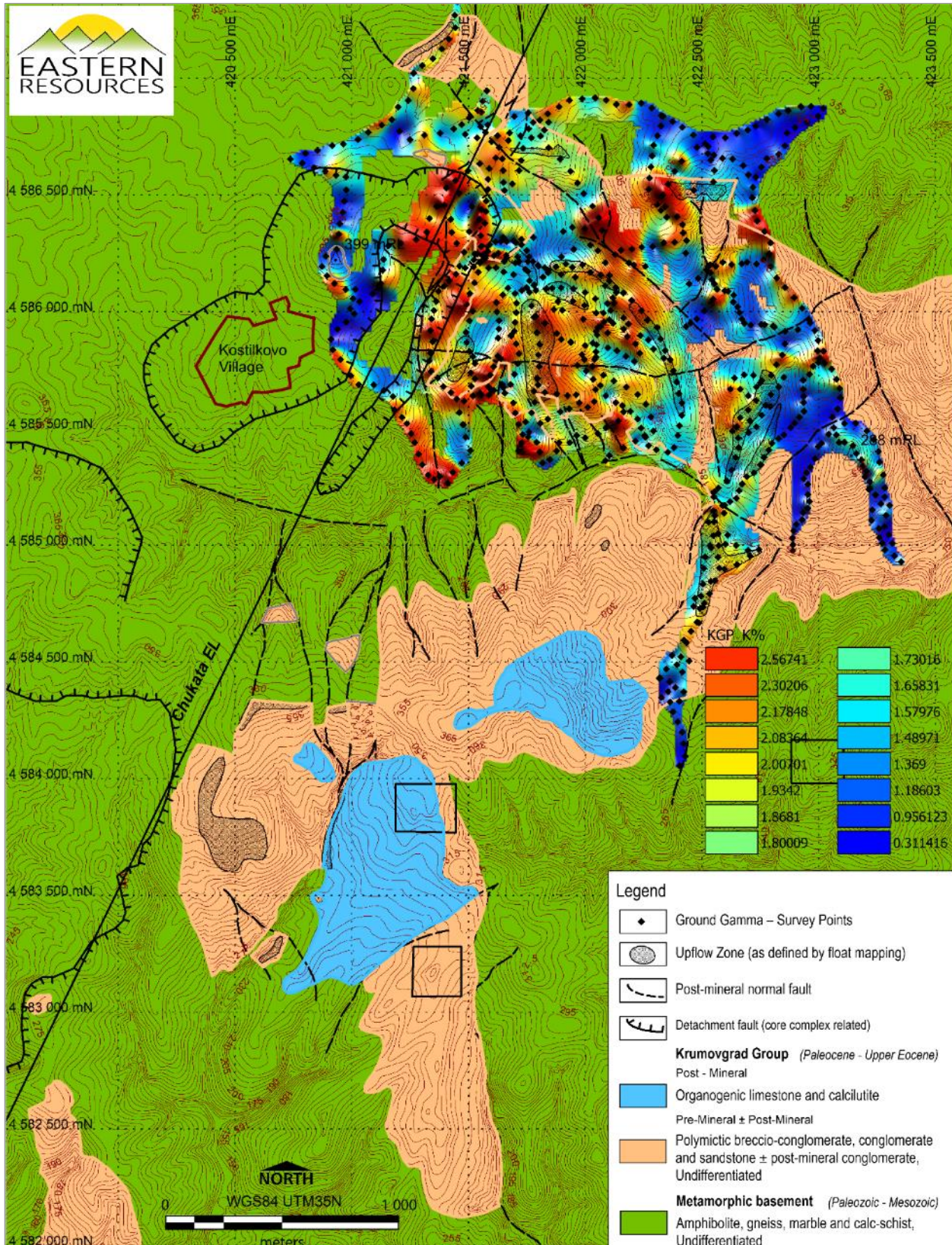
In general, the survey showed a good correlation with the historical Bulgarian State aeroradiometric survey and mapped geology. Good contrast is observed within geological units i.e., unaltered metamorphic basement rocks and unaltered sedimentary rocks exhibit similar responses.

The host sedimentary rocks would be considered 'unreactive' given that they are commonly composed of 30 - 50% quartz, thus radiometric responses are considered to likely be mapping subtle alteration responses.

The mapped upflow zones have, in general, an associated K-channel response which correlates reasonably well with the historical gold-in-soil survey. Radiometric response will be most affected by the level of exposure of the upflow zone i.e., stronger K-channel responses will be associated with stronger adularia / illite content. Quartz-adularia-illite vein material from upflow zones, with associated gold values, are commonly greater than 85% quartz by volume.

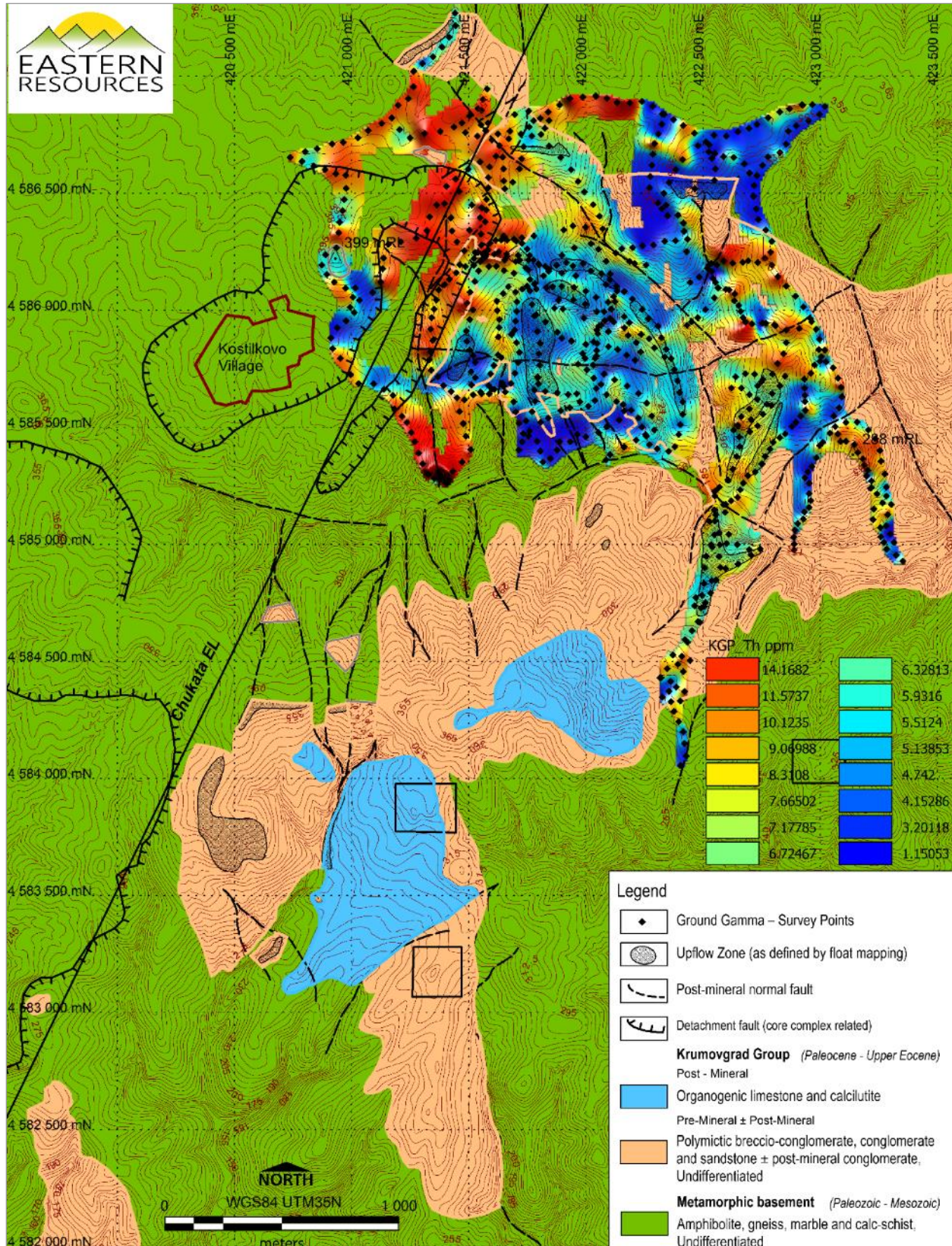


Figure 9.4 Results of the 2020 handheld geophysical survey (Potassium)



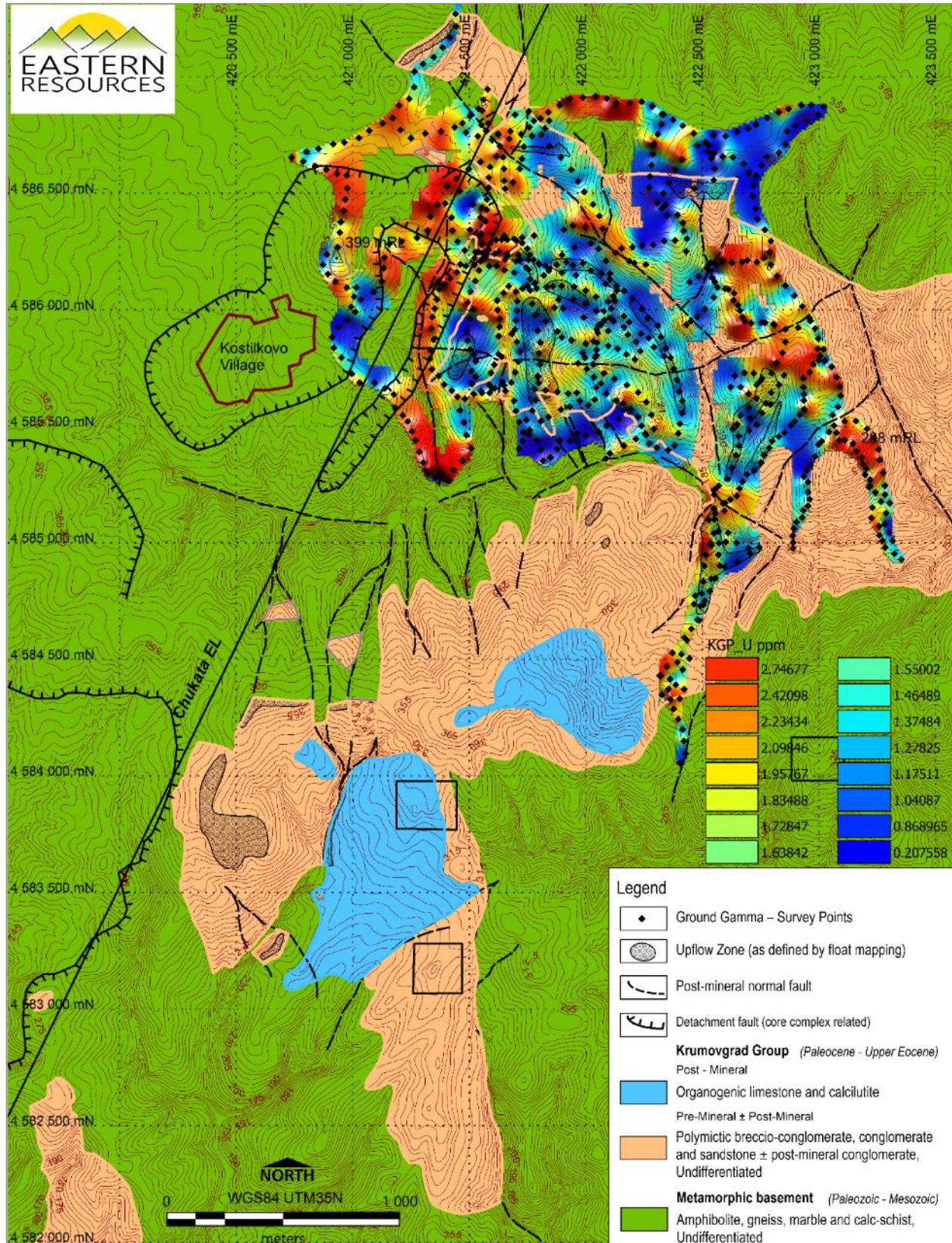
Source: Eastern, 2022.

Figure 9.5 Results of the 2020 handheld geophysical survey (Thorium)



Source: Eastern, 2022.

Figure 9.6 Results of the 2020 handheld geophysical survey (Uranium)



Source: Eastern, 2022.

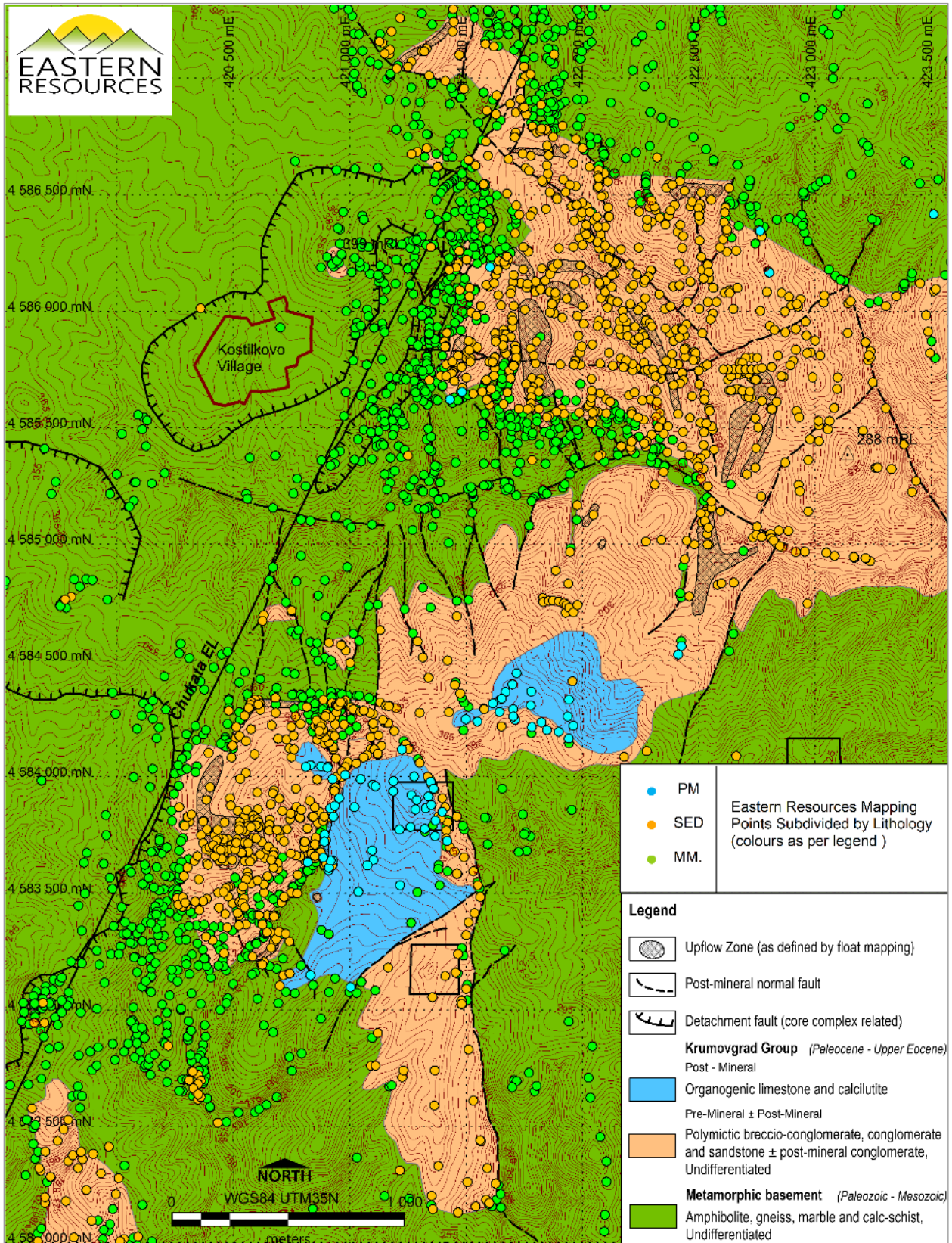
## 9.4 Mapping

Eastern's current geological map is based on multiple mapping and prospecting campaigns carried out by Eastern since 2015. All historical State geological mapping within the Project area has been reviewed. The state mapping has provided certain constraints (i.e., the detachment fault surface), however the current geological map represents the most accurate depiction of the Project area.

The Project area has been mapped at predominantly 1:5,000 scale, with selected areas mapped at 1:2,500 scale.

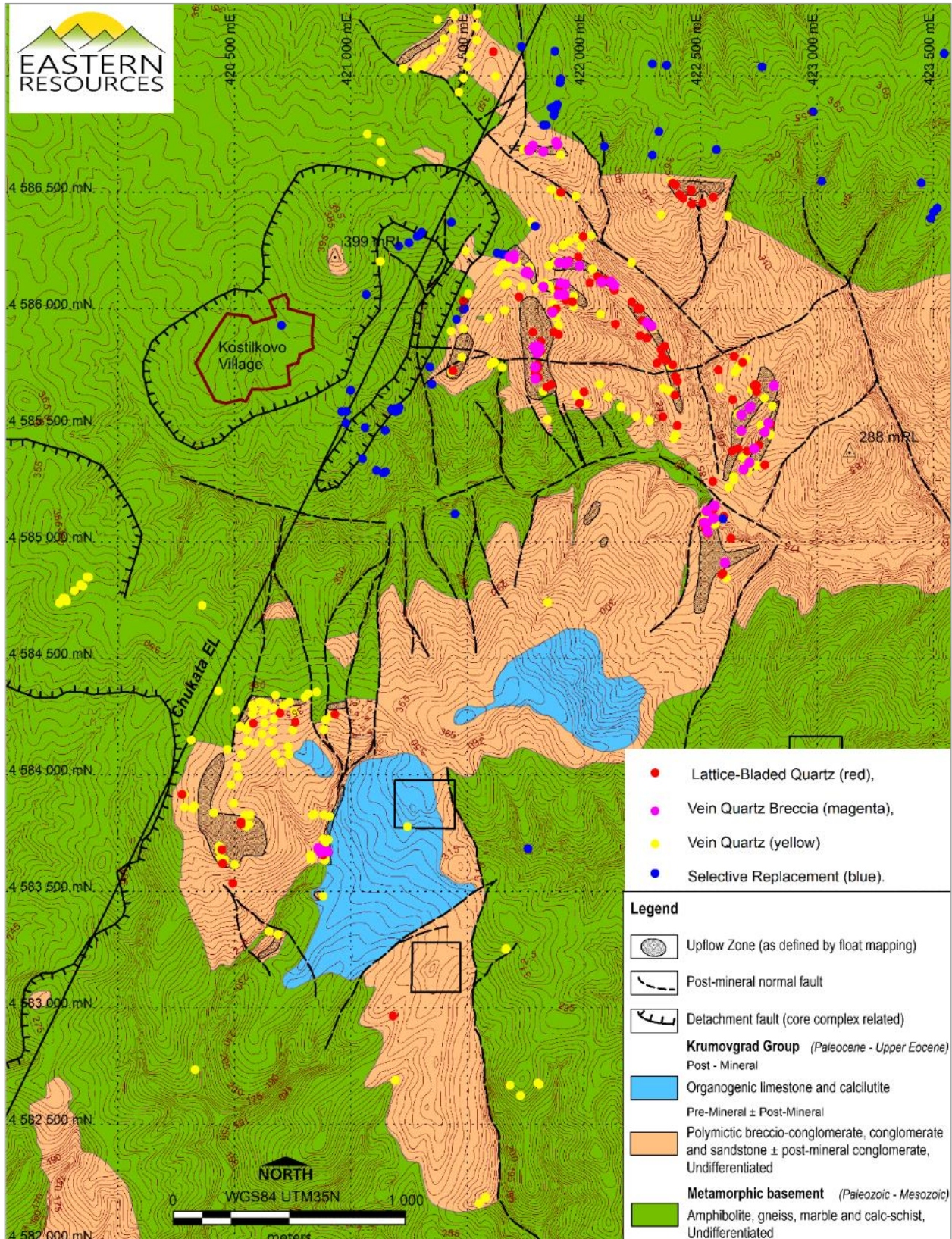
Approximately 3,800 mapping points have been combined to support the Project geological map (Figure 9.7). In addition, Eastern mapped and classified the quartz-adularia-illite vein float present on the Project (Figure 9.8). Ninety two percent of mapping points have been classified as outcrop, with 8% classified as sub-crop.

Figure 9.7 Eastern mapping points by lithology



Source: Eastern, 2022.

Figure 9.8 Quartz-adularia-illite vein float mapped by textural type



Source: Eastern, 2022.

## 9.5 Trenching

Trenching was undertaken by Eastern to demonstrate the presence of the postulated upflow zones on the Project, as well as to assist in the siting of the exploration drilling. Twenty-four trenches were excavated for a total length of 1,161 m. Trench sampling methods are described in detail in Eastern's standard exploration operating procedures.

Table 9.1 provides a summary of the trenches excavated by Eastern on the Project as well as the trench lengths, start positions (UTM35N co-ordinate system), and directional azimuths.

Table 9.1 Summary of trenching completed by Eastern

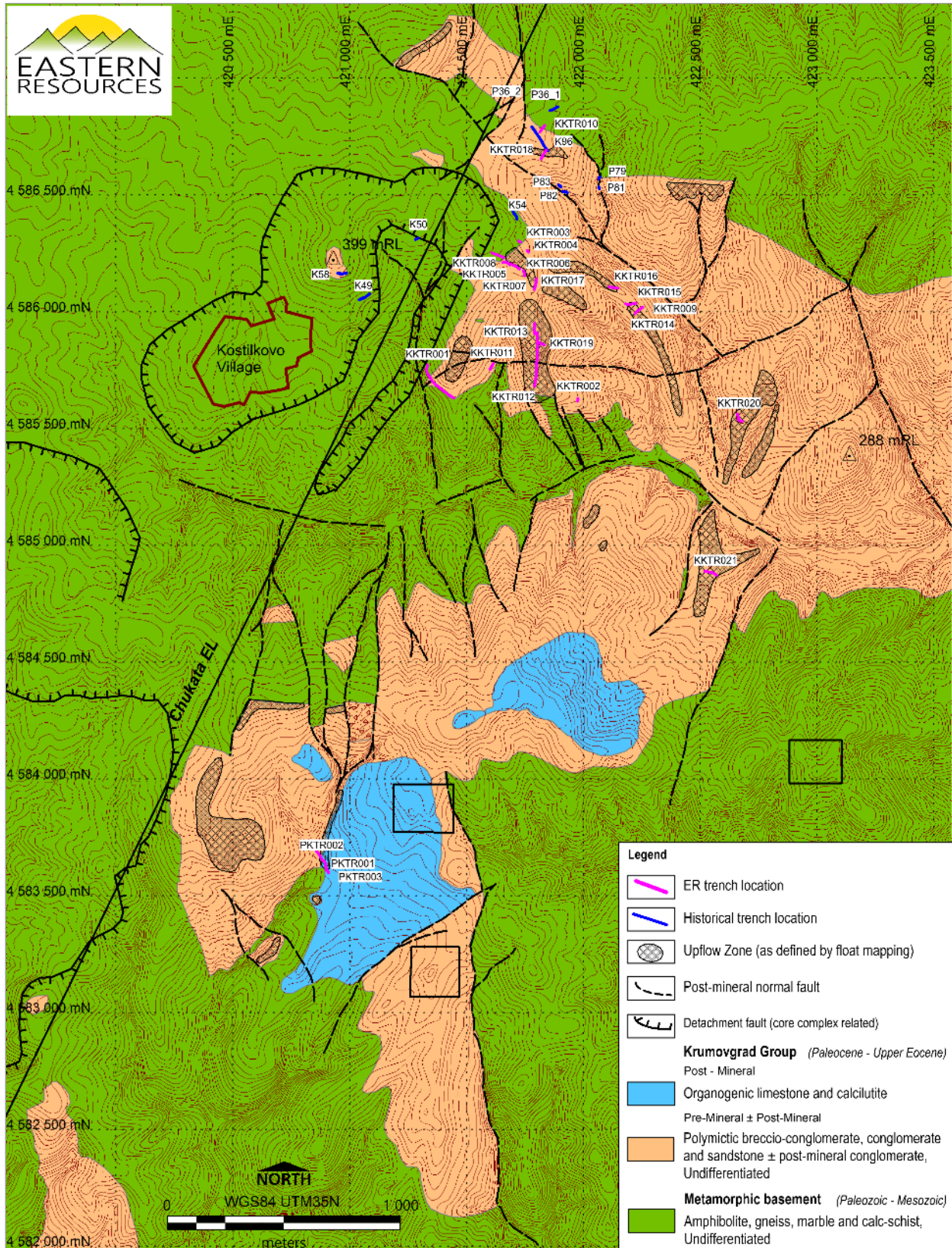
Trench number	PROSPECT	Easting	Northing	Elevation	Length	Azimuth
KKTR001	IZ	421332	4585773	299	195	185
KKTR002	IZ	421975	4585618	288	10	5
KKTR003	IZ	421731	4586299	347	10	295
KKTR004	IZ	421766	4586256	341	10	315
KKTR005	IZ	421686	4586201	344	35	305
KKTR006	IZ	421727	4586183	341	50	305
KKTR007	IZ	421750	4586154	340	24	345
KKTR008	IZ	421658	4586233	348	54	291
KKTR009	IZ	422254	4586020	269	18	231
KKTR010	IZ	421834	4586798	353	34	215
KKTR011	IZ	421615	4585780	295	31	210
KKTR012	IZ	421790	4585682	313	228	10
KKTR013	IZ	421792	4585907	332	44	0
KKTR014	IZ	422221	4585992	267	18	45
KKTR015	IZ	422224	4586035	272	45	265
KKTR016	IZ	422147	4586101	273	38	280
KKTR017	IZ	421797	4586140	337	45	180
KKTR018	IZ	421818	4586654	344	44	30
KKTR019	IZ	421833	4585858	318	29	295
KKTR020	IZ	422660	4585563	237	42	170
KKTR021	CF	422569	4584873	225	54	305
PKTR001	RU	420909	4583598	269	13	335
PKTR002	RU	420884	4583650	269	50	330
PKTR003	RU	420902	4583608	269	40	345

Source: Eastern, 2022.

Forty-two trench samples were submitted for gold assay, some for accompanying multi-element assays. Trench sample analyses were subject to QA/QC protocols (Section 11.4) through the inclusion of three certified reference material samples. None of trench samples returned significant gold results.

Figure 9.9 shows the locations of Eastern trenching and Figure 9.10 is a view of an example trench from the Runkite prospect area.

Figure 9.9 Locations of Eastern trenching



Source: Eastern, 2022.



Figure 9.10 Eastern trenching at the Runkite prospect area (PKTR001)



Source: Eastern, 2022.

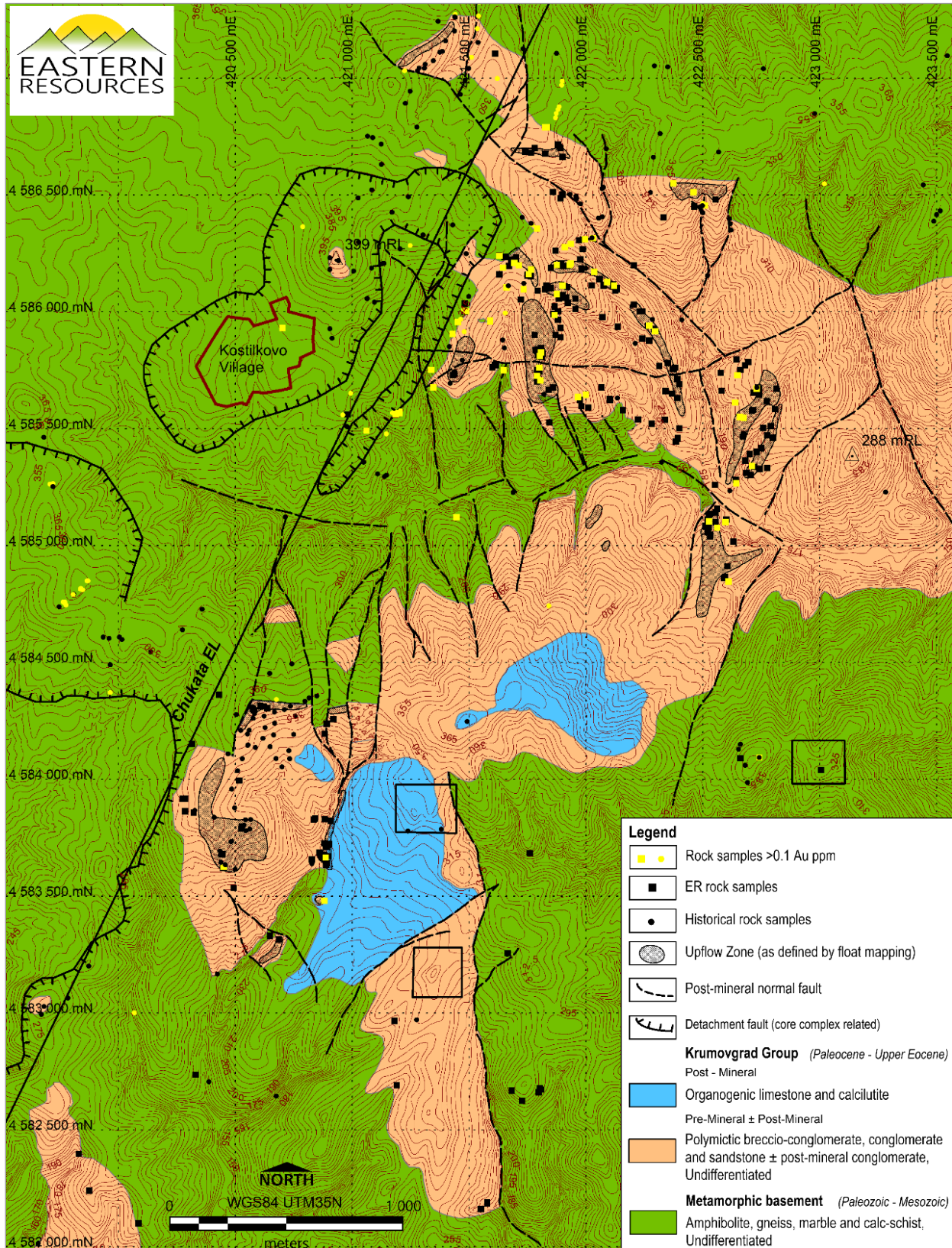
## 9.6 Rock chip sampling

Eastern's rock chip sampling program produced 324 gold and accompanying multi-element assays. Rock chip sample analyses were subject to quality assurance and quality control protocols (Section 11.4) through the inclusion of twenty-two certified reference material samples and nine field duplicates.

Eastern has, where possible, resampled rock chip locations and found that the results were in line with historical records. Figure 9.11 shows the locations of rock chip sampling carried out by Eastern (squares) against the historical rock chip sampling (circles), some of which are located outside of the Property boundary. The samples are coloured by metal concentration above or below a threshold value of 0.1 g/t Au. Higher gold concentrations, as recorded in the rock chip samples, are observed in the Izvorite prospect area compared to the Runkite prospect area.

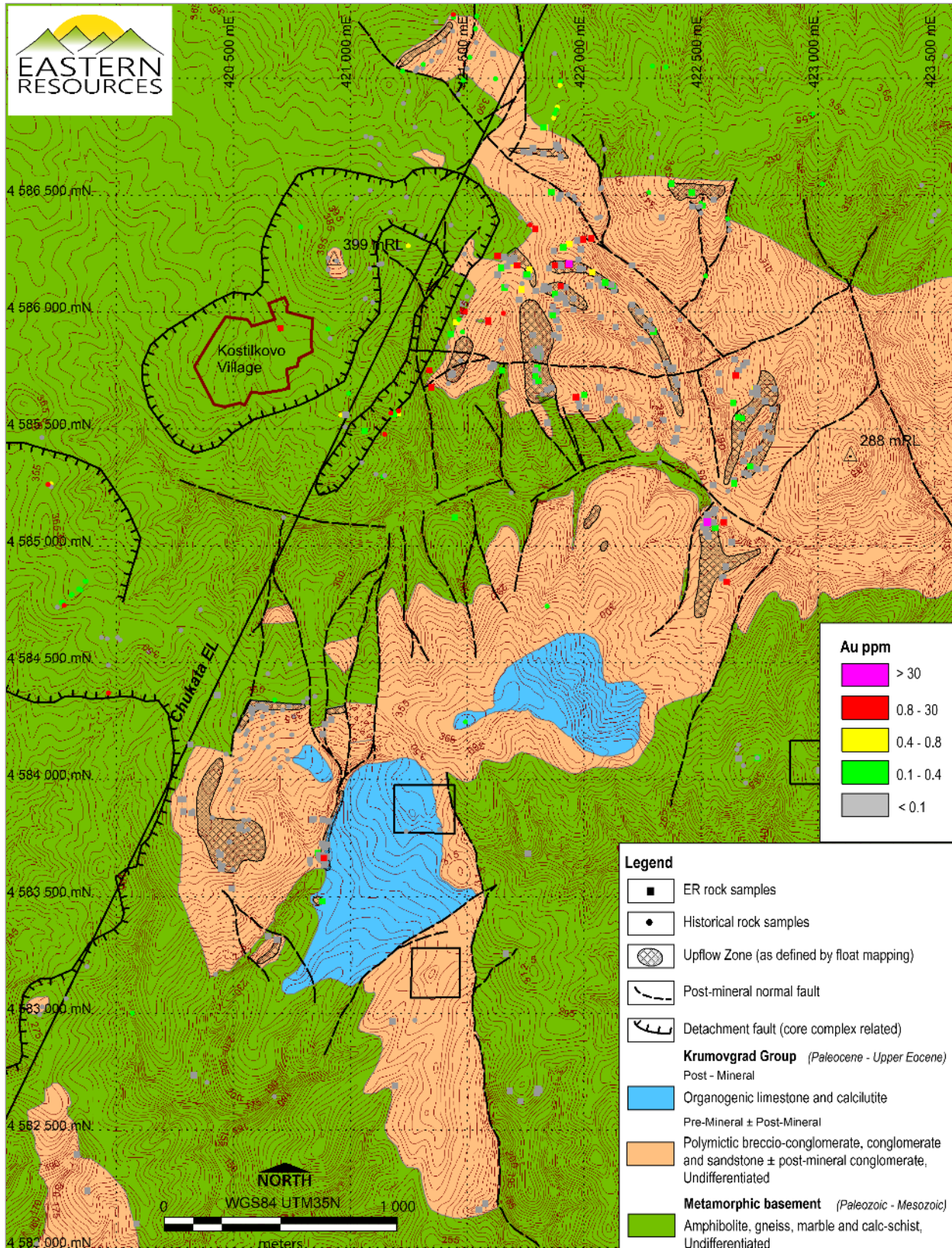
Figure 9.12, Figure 9.13, Figure 9.14, and Figure 9.15, show the locations of rock chip samples, colour coded respectively according to their gold, silver, arsenic, and antimony assays. The QP notes that correlation appears to exist between the interpreted mapped upflow zones that Eastern has identified on the Project and sub-economic, mineralized material.

Figure 9.11 Map showing the location of Eastern and historical rock chip sampling



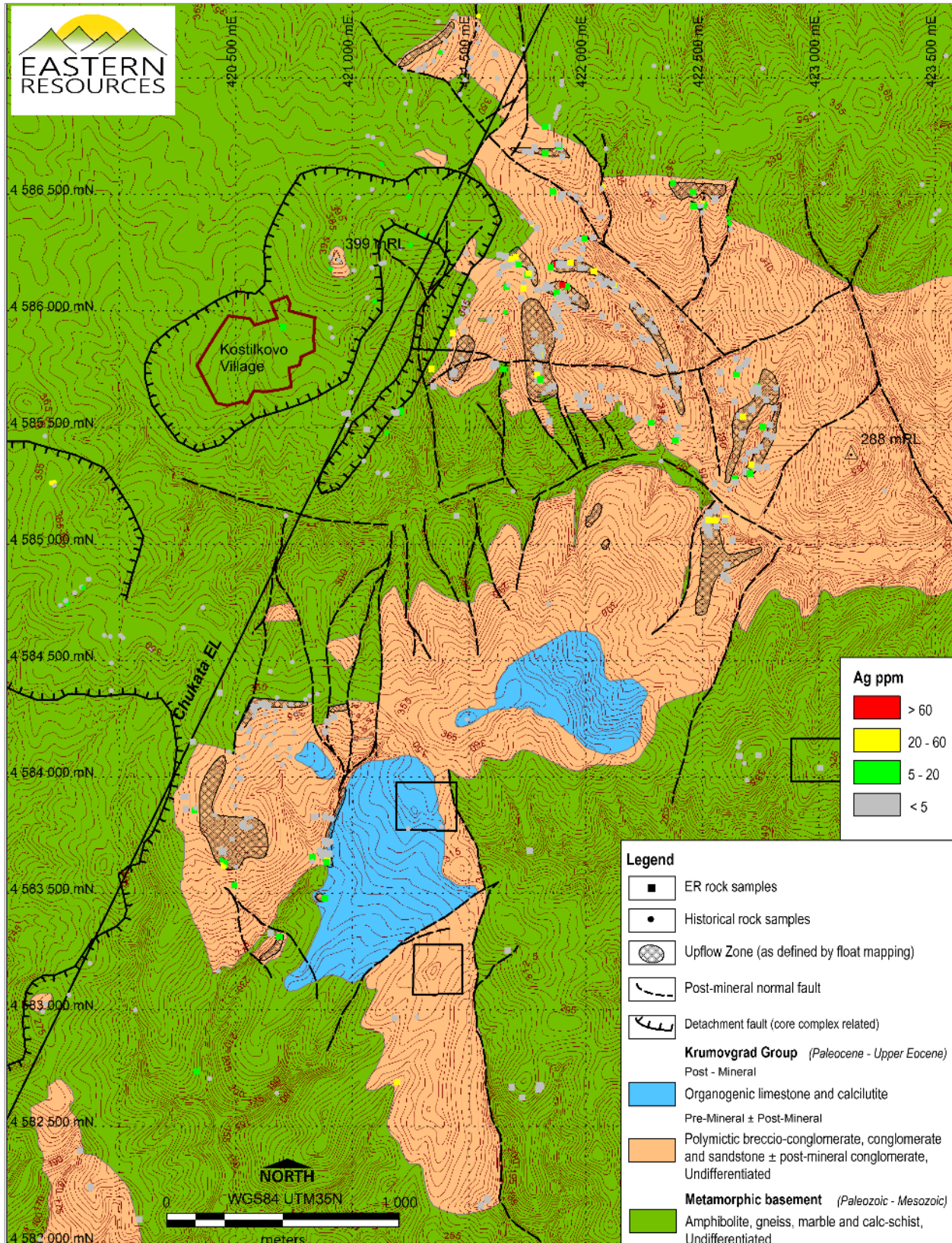
Source: Eastern, 2022.

Figure 9.12 Map showing the location of Eastern and historical rock chip sampling (gold)



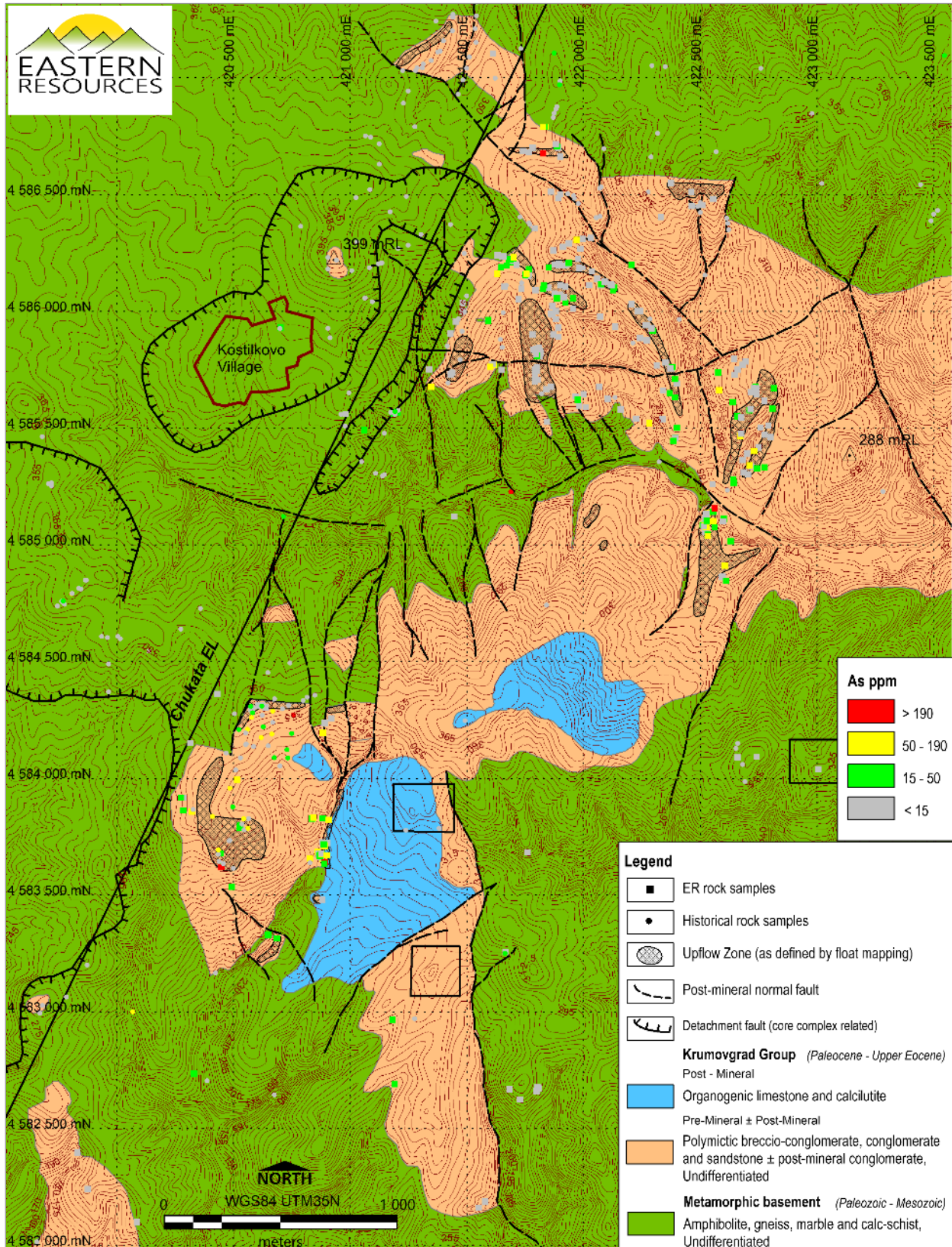
Source: Eastern, 2022.

Figure 9.13 Map showing the location of Eastern and historical rock chip sampling (silver)



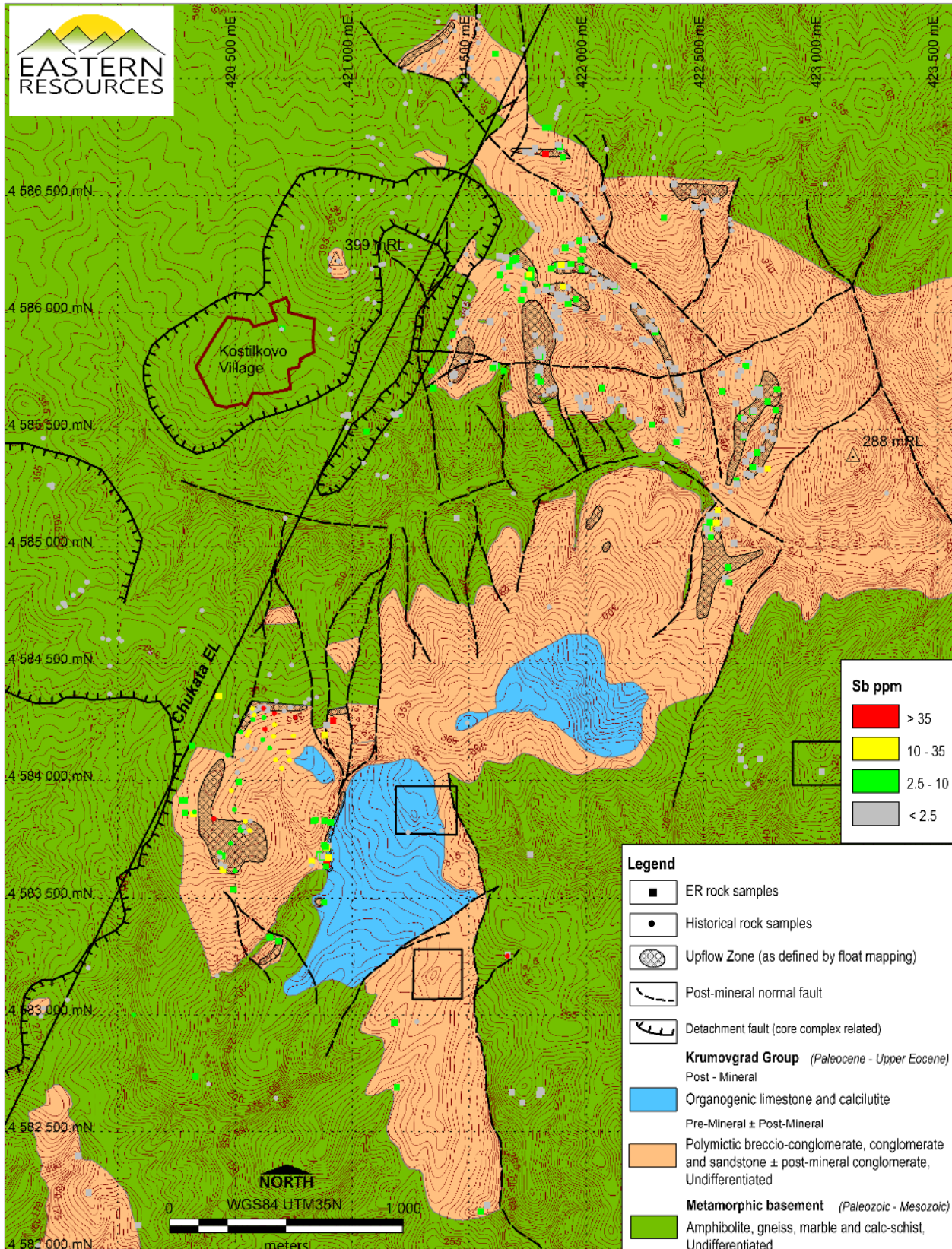
Source: Eastern, 2022.

Figure 9.14 Map showing the location of Eastern and historical rock chip sampling (arsenic)



Source: Eastern, 2022.

Figure 9.15 Map showing the location of Eastern and historical rock chip sampling (antimony)



Source: Eastern, 2022.

The majority of rock samples represent surface vein float material however, given the local topography, most samples can be assumed to have been derived from the immediate vicinity of the related prospect area. A summary of the results of the rock chip sampling (inclusive of historical samples) has resulted in the following observations.

- A simple statistical count of gold values based on population inflection points within the Izvorite and Obor prospect areas (n=220) provides the following breakdown:
  - ≥0.1 g/t Au: 31%
  - >0.4 g/t Au: 12%
  - >0.8 g/t Au: 9%
- Simple linear correlation matrices, with no removal of outliers, were created for the Izvorite (n=93) and Runkite (n=68) prospect areas (the Obor prospect area has insufficient multi-element data to date). The following relationships were established (Table 9.2).
- Izvorite:
  - Au shows a weak correlation with Ag.
  - Au shows a moderate to strong positive correlation with Te.
  - As-Sb-Hg-Tl show a moderate positive correlation.
- Runkite:
  - Au shows a moderate positive correlation with Ag.
  - Ag shows a moderate positive correlation with As.
  - As-Sb-Hg-Tl show a moderate positive correlation.

Table 9.2 Correlation coefficient analysis

<b>Kostilkovo Gold Project Correlation coefficient (all rock samples)</b>				
	<b>VQZ ALL</b>	<b>SEL REP</b>	<b>VQZ Izvorite</b>	<b>VQZ Runkite</b>
As vs Sb	0.7	0.61	0.62	0.71
As vs Au	0.01	0.02	0.03	0.26
Sb vs Au	0.06	0.34	0.15	0.43
As vs Ag	0.28	0.32	0.26	0.4
Sb vs Ag	0.31	0.53	0.4	0.29
Ag vs Au	0.48	0.6	0.49	0.5

VQZ: Vein quartz; SEL REP: Selective replacement.  
Source: Eastern, 2022.

Comparative plots for As, Sb, and Hg were created for the Izvorite and Runkite prospect areas. All plots show the same single log-normal populations, similar slopes, and similar coefficients of variation. The analysis showed that the Runkite prospect area has twice the amount of As and Hg and three times the amount of Sb than the Izvorite prospect area.

Base metal concentrations are very low for both the Izvorite and Runkite prospect areas with means of 15 parts per million (ppm) Cu, 10 ppm Pb and 38 ppm Zn and 8 ppm Cu, 5 ppm Pb, and 9 ppm Zn, respectively.

Table 9.3 shows the average of all rock samples ≥0.4 g/t Au with multielement association for quartz-adularia-illite vein float material (VQZ ALL) and selective replacement mineralization (SEL REP).

Table 9.3 Multielement data by mineralization style

	<b>Au</b>	<b>Ag</b>	<b>As</b>	<b>Bi</b>	<b>Cd</b>	<b>Cu</b>	<b>Hg</b>	<b>Mn</b>
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection	0.01	0.05	0.1	0.02	0.01	0.5	0.01	2
Upper limit	1,000	250	10,000	10,000	10,000	10,000	10,000	10,000
<b>SEL REP</b>	1.06	4.67	30	0.92	1.25	39	0.06	395
<b>VQZ ALL</b>	7.15	28.14	14	0.05	0.09	19	0.10	151
	<b>Mo</b>	<b>Ni</b>	<b>Pb</b>	<b>S</b>	<b>Sb</b>	<b>Tl</b>	<b>U</b>	<b>Zn</b>
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection	0.05	0.5	0.5	0.5	0.05	0.02	0.05	1
Upper limit	10,000	10,000	10,000	50	10,000	10,000	10,000	10,000
<b>SEL REP</b>	1	12	116	≤0.5	2.39	0.06	0.16	261
<b>VQZ ALL</b>	1	11	18	≤0.5	3.64	0.09	0.09	34

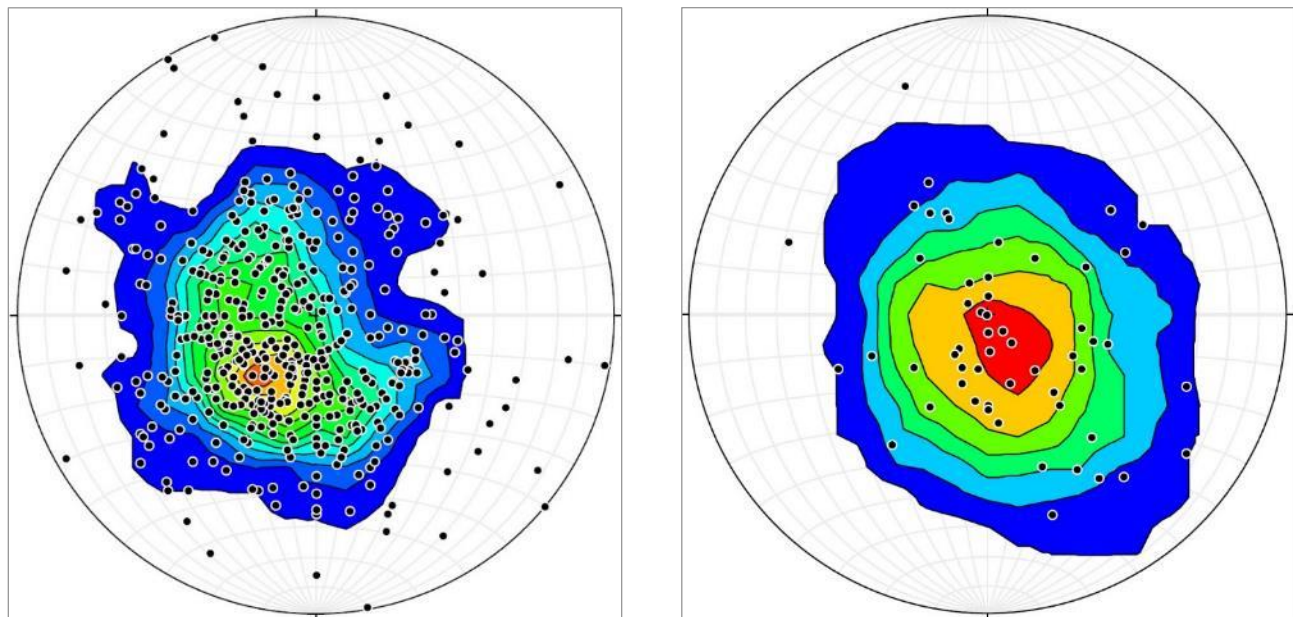
VQZ: Vein quartz; SEL REP: Selective replacement.  
 Source: Eastern, 2022.

The QP cautions that, because the statistics in this section have been derived from a data set that included historical data, any observations arising from the analyses should be qualified on the basis that the historical data component has not been verified.

**9.7 Structure**

Structural mapping of the Project, indicates that the majority of dips to foliation are low to moderate towards the north-east, as would be expected by the Project’s location on the north-east margin of the Biala Reka metamorphic core complex. These surfaces have accommodated extension (Figure 9.16 and Figure 9.17). Figure 9.17 shows contoured lower hemisphere plots of poles-to-metamorphic foliation (n=520) and sedimentary bedding (n=57).

Figure 9.16 Stereonet plots of poles-to foliation bedding



**Metamorphic foliation (13 → 055)**

**Sedimentary bedding (9 → 323)**

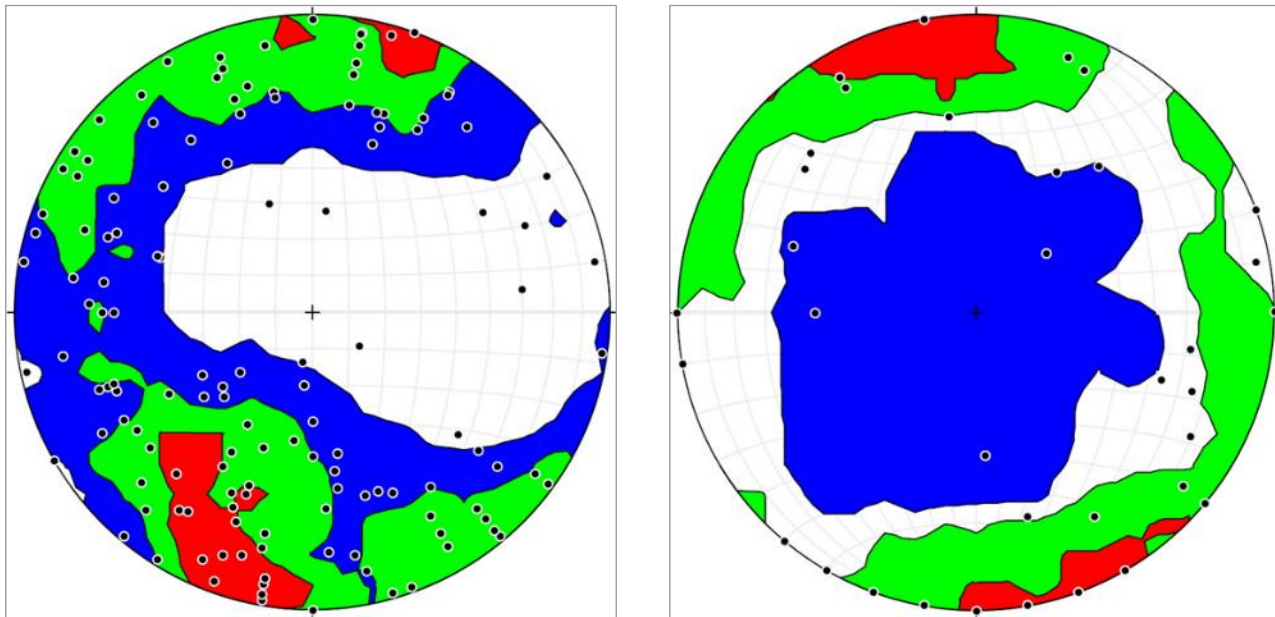
Source: Eastern, 2022.



Domaining of the foliation data reveals no material change in the mean principal orientation to foliation across the Project which, taken in conjunction with the near-flat sedimentary bedding, may suggest minimal post-mineral tilting.

Eastern has not undertaken any domaining of the faults observed on the Project as most of the faults are not mineralized. The majority of the data for the steep structures displays a wide spread of orientations, ranging from E-W to NE-SW. It remains unclear if this is due to two separate fault populations or faulting events. Figure 9.17 shows the poles-to-faults in metamorphic rocks (n=140) and poles-to-faults in sedimentary rocks (n=40).

Figure 9.17 Stereonet plots of poles to faults



**Faults in Metamorphic Rocks**

**Faults in Sedimentary Rocks**

Source: Eastern, 2022.

## 10 Drilling

### 10.1 Overview

Eastern has completed 19 diamond drillholes in two prospect areas for a total of 2,331 m. Figure 10.1 shows the location of the Eastern drillhole collars, as well as the two holes drilled by Hereward. Table 10.1 is a summary of the drillholes completed by Eastern on the Property.

A summary of the relevant intersections of interest is as follows:

- Izvorite prospect area:
  - Fifteen drillholes for 1,783 m.
  - Eight samples returned values greater than 0.1 g/ Au.
  - KKDD010: One significant intersection from 168 m of 2.0 m at 1.02 g/t Au, 8.3 g/t Ag.
- Runkite prospect area:
  - Four drillholes for 548 m, all of which intersected alteration.
  - No significant assay intersections.

The relationship between the sample length and the true thickness of the mineralization is not known.

Table 10.1 Summary of Eastern drilling information

HOLEID	Prospect	Easting	Northing	Elevation	Depth	Azim	Dip	Diameter (m from-to)		Recovery %
								PQ	HQ3	
KKDD001	IZ	421622	4586060	328	46.2	277.7	-46.3	0 - 12.0	12.0 - 46.2	92
KKDD002	IZ	421628	4586067	328	45.5	342.5	-45.0	0 - 12.1	12.1 - 45.5	90
KKDD003	IZ	421774	4586066	333	167.6	325.1	-46.4	0 - 12.2	12.2 - 167.6	90
KKDD004	IZ	421878	4585906	316	160.4	165.1	-45.5	0 - 11.8	11.8 - 160.4	91
KKDD005	IZ	422045	4585701	265	167.3	225.1	-44.5	0 - 12.2	12.2 - 167.3	83
KKDD006	IZ	421865	4586165	322	140.9	224.9	-44.7	0 - 6.0	6.0 - 140.9	92
KKDD007	IZ	421475	4585916	340	92.1	325.1	-45.2	0 - 9.0	9.0 - 92.1	89
KKDD008	IZ	422642	4585722	245	201.5	40.0	-58.0	0 - 21.5	21.5 - 201.5	95
KKDD009	IZ	422742	4585700	263	107.7	327.9	-49.0	0 - 15.9	15.9 - 107.7	90
KKDD010	IZ	421868	4586165	330	197.7	53.7	-58.2	0 - 12.9	12.9 - 197.7	88
KKDD011	IZ	421950	4586200	310	112.8	43.6	-58.2	0 - 10.0	10.0 - 112.8	93
KKDD012	IZ	422000	4585845	285	98.7	30.7	-57.9	0 - 13.5	13.5 - 98.7	92
KKDD013	IZ	421901	4586108	315	7.2	315.2	-48.0	0 - 7.2		89
KKDD014	IZ	421899	4586110	315	113.5	136.2	-48.1	0 - 9.1	9.1 - 113.5	90
KKDD015	IZ	421852	4586691	350	124.0	29.5	-46.5	0 - 9.8	9.8 - 124	92
PKDD001	RU	420639	4584237	343	174.1	336.3	-58.7	0 - 18.1	18.1 - 174.1	85
PKDD002	RU	420436	4583780	332	114.8	230.3	-57.7	0 - 9.9	9.9 - 114.8	93
PKDD003	RU	420444	4583783	332	113.2	47.4	-57.9	0 - 9.7	9.7 - 113.2	91
PKDD004	RU	420566	4583713	308	146.1	337.8	-47.7	0 - 12.6	12.6 - 146.1	92

Notes:

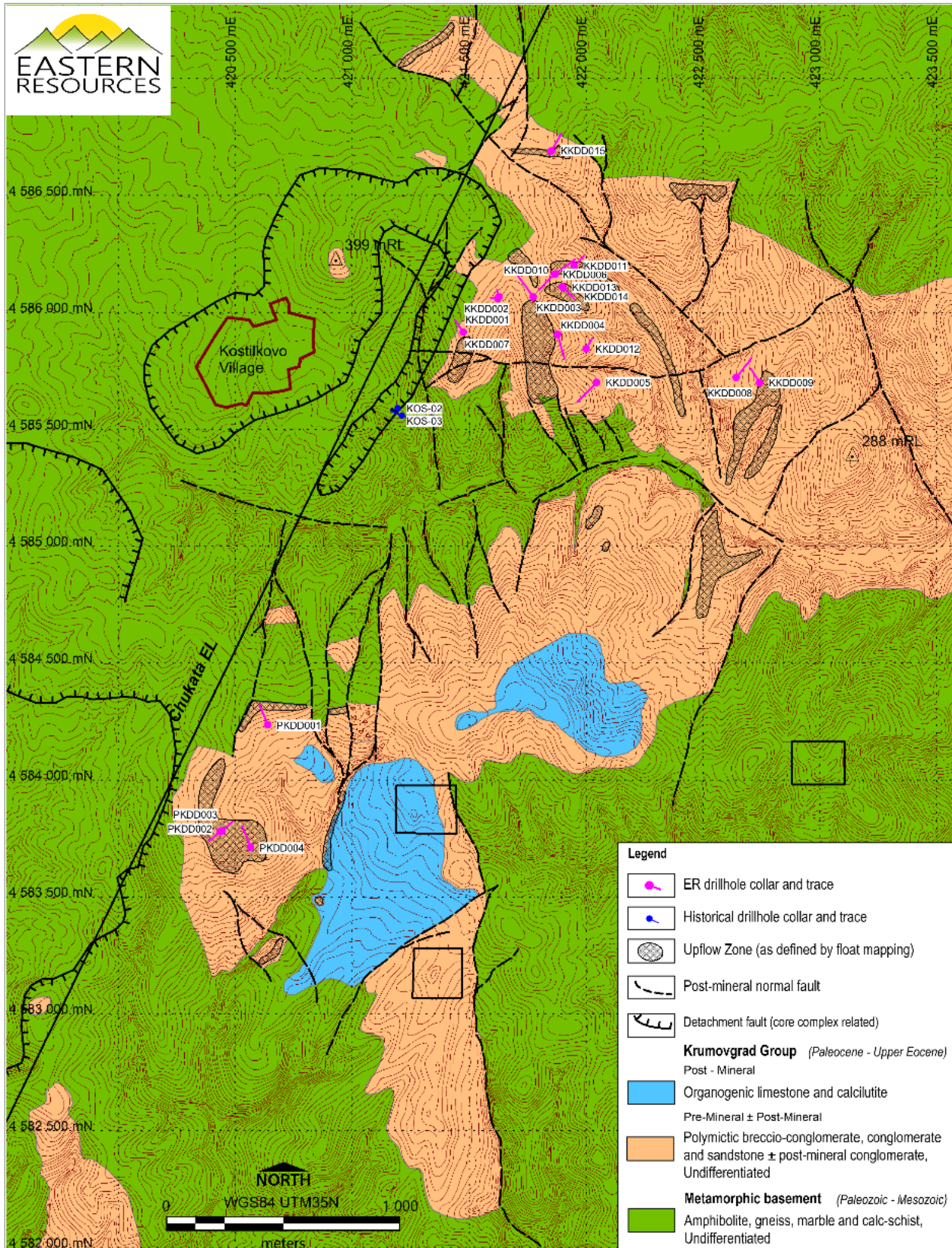
IZ = Izvorite

RU = Runkite

Source: Eastern, 2022.

Drilling-related field activities conducted by Eastern are detailed in a set of standard procedure documents that have been made available to the QP. These documents describe procedures that are considered by the QP to be consistent with good industry standards.

Figure 10.1 Eastern and Hereward (historical) drillhole locations



Source: Eastern 2022.

## 10.2 Drilling method

All drilling carried out on the Property is diamond core drilling.

The core size used in the Hereward drilling is unknown. Downhole surveys are recorded at surface and at the end-of-hole, with two intermediate recordings for KOS-03 at 30 m and 60 m. The survey methods for collars and downhole are unknown.

Eastern commenced each hole using PQ-size (83.1 mm) which was reduced to HQ3 core size (63.5 mm) at depth.

Collar positions were recorded using handheld GPS instruments, while Eastern utilized a mix of magnetic or gyroscopic tools for downhole surveys. Downhole measurements were recorded mostly at 30 m intervals (60%), with around 20% of intervals at 15 m or less, and 12% at approximately 50 m.

Core recovery is generally good, with records showing 60% of core to be 100% recovered. A further 35% of measurements are between 80% and 100% recovered. Averages by hole are shown in Table 10.1.

## 10.3 Core logging and photography

Core was logged by Eastern geologists on 1.0 m intervals, with the following information being recorded:

- Lithology, weathering, alteration, veining, and moisture content.
- Presence of cavities.
- Structural logging (alpha / beta / gamma measurements for planar and linear features within intervals of orientated core).
- Summary geotechnical logging.

The QP has reviewed the Excel™ spreadsheet databases provided by Eastern and confirms that data has been recorded following the procedures and protocols provided to AMC.

## 11 Sample preparation, analyses, and security

### 11.1 Core sampling

The sampling procedure followed by Eastern was as follows:

- Core is marked up for sampling at 1.0 m intervals, commencing from surface.
- Samples designated for assaying are selected on the basis of visual assessment of the gold mineralization potential of the core, according to the style of mineralization model being employed.
- The total length of core recovered per metre is recorded, as a basis for calculating percentage recovery per metre.
- Core is cut along the orientation line, with the left-hand half looking downhole retained in the core tray.

A total of 126 samples were selected for assaying, as summarized by drillhole in Table 11.1. Selection has focused on evidence of quartz veining and in particular chalcedonic quartz or in situ quartz-adularia, or mineralized basement, or in the case of KKDD006 green sandstone within disseminated pyrite/marcasite. Eastern plans to subsequently assay the current drillhole set more extensively on the grounds that gold mineralization may not always coincide with visual expectations.

Of the selected samples, all 126 were submitted for assaying for gold, while 101 were assayed for 36 elements, and 25 for 52 elements.

Table 11.1 Samples selected for assaying

HOLEID	Samples	HOLEID	Samples	HOLEID	Samples
KKDD001	1	KKDD008	14	KKDD015	1
KKDD002	3	KKDD009	3	PKDD001	-
KKDD003	16	KKDD010	5	PKDD002	-
KKDD004	33	KKDD011	-	PKDD003	-
KKDD005	3	KKDD012	2	PKDD004	-
KKDD006	38	KKDD013	14		
KKDD007	7	KKDD014	3		

### 11.2 Sample security

Prior to submission to the laboratory all samples are maintained in a secure core shed / storage facility that maintains 24-hour security, with no unauthorized access unless accompanied by a Company representative.

Figure 11.1 shows the storage facility for core drilled by Eastern.

### 11.3 Sample preparation and analysis

The following sample preparation procedure was followed:

- All drill samples are dried at 105°C for a period of not less than 12 hours.
- Prior to pulverization, diamond core samples are first crushed to a nominal -6 mm. Following crushing, all samples above 4.5 kilograms (kg) (PQ samples) are riffle-split (coarse reject is retained for future use).
- All diamond core samples are pulverized in a LM5 crusher to 95% passing 75 µm.

- Sieve screen tests are performed on every 20th pulverized sample.
- The bowl and puck of the LM5 crusher are routinely cleaned with barren flush material every 20th sample, or as required, to remove the build-up of fine rock material.

Figure 11.1 Stored drill core



Source: Eastern, 2022.

All assaying, including of rock chip and trench samples, is undertaken by the SGS Bor laboratory, located in eastern Serbia, which is independent of Eastern. The SGS Bor laboratory is owned by Dundee Precious Metals Inc. (DPM), however SGS Bulgaria manage and operate it on their behalf. The laboratory is not accredited, but all SGS accredited methods and protocols are implemented and used.

Gold is assayed using fire assay (Method FAA505) with an atomic absorption spectrometry (AAS) finish. Multi-element data is assayed by Inductive Coupled Plasma (Method IMS14B).

Table 11.2 shows the SGS Bor laboratory detection limits. Any silver assays returning values above 10 g/t are re-assayed using the AAS15Q method. Within each batch of 50 samples internal lab QA/QC checks consist of three repeats, three second splits, two standards, and one blank.

Table 11.2 SGS Bor lab detection limits

Lab	Detection limits				Overlimit protocols	
	Au		Ag		Au	Ag
	LDL	UDL	LDL	UDL		
SGS Bor lab	0.01 g/t	1,000 g/t	0.05 g/t	10 g/t	Unspecified	AAS after Aqua Regia Digest

Notes: LDL=lower detection limit. UDL=upper detection limit.

Source: Compiled by AMC from data provided by Eastern.

## 11.4 Quality Assurance and Quality Control

### 11.4.1 Overview

Eastern has established QA/QC procedures which cover sample collection and processing at the Property. These cover a mix of sample types but notably all drilling programs completed on the Property incorporate the insertion of CRMs and duplicates into the sample stream on a batch-by-batch basis.

A summary of all samples submitted and QA/QC samples inserted from October 2015 to December 2020 is presented in Table 11.3, and Table 11.4 summarizes the insertion rate of these QA/QC samples.

Table 11.3 Kostilkovo samples by year

Year	Samples	CRMs	Field duplicates	Umpire
2015	23	6	3	0
2016	64	6	0	3
2017	55	3	1	4
2020	350	17	5	0
<b>Total</b>	<b>492</b>	<b>32</b>	<b>9</b>	<b>7</b>

Notes:

- No blanks or coarse duplicate material submitted.
- Umpire samples relate to metallurgical test assays only.

Source: Compiled by AMC based on data provided by Eastern.

Table 11.4 Kostilkovo QA/QC insertion rates

Year	Samples	CRMs	Field duplicates	Total QA/QC
2015	23	26%	13%	39%
2016	64	9%	0%	9%
2017	55	5%	2%	7%
2020	350	5%	1%	6%
<b>Overall</b>	<b>492</b>	<b>7%</b>	<b>2%</b>	<b>8%</b>

Source: Compiled by AMC based on data provided by Eastern.

### 11.4.2 Certified Reference Materials

#### 11.4.2.1 Description

Seven different CRMs were used by Eastern between October 2015 – December 2020 during rock, trenching and drill core sampling programs. All CRMs are customized (“In House”) standards prepared from Serbian source material consisting of a sandstone / conglomerate matrix. Standards were certified by Geostats Pty Ltd and underwent round robin testing at five laboratories (Geostats, 2013).

Eastern’s internal procedures require that CRMs are inserted into the sample stream “at a minimum of every 20th primary sample” (5%). Details of CRMs used at Kostilkovo and their frequency of insertion are presented in Table 11.5 and Table 11.4 respectively.

Table 11.5 Kostilkovo CRMs (October 2015 – December 2020)

CRM ID	Au (g/t)	Standard deviation
TPG003	0.38	0.02
TPG002	0.47	0.02
TPG001	0.85	0.03
TPG004	1.31	0.04
TPG006	1.73	0.06
TPG005	2.99	0.10
TPG007	4.60	0.15

Notes: CRMs are presented in order of increasing Au expected value.

#### 11.4.2.2 Discussion on CRMs

CRMs contain standard, predetermined concentrations of material (gold, silver, lead, zinc, etc.) which are inserted into the sample stream to check the analytical accuracy of the laboratory. Industry best practice typically advocates an insertion rate of at least 5% of the total samples assayed. CRMs should be monitored on a batch-by-batch basis and remedial action taken immediately if required. For each economic mineral, the QP recommends the use of at least three CRMs with values:

- At the approximate cut-off grade (COG) of the deposit.
- At the approximate expected grade of the deposit.
- At a higher grade.

In the exploration phase, the CRMs should monitor gold values above background for the region and the range of gold values anticipated. Industry best practice is to re-assay batches where two consecutive CRMs in a batch occur outside two standard deviations (SD) (warning), or one CRM occurs outside of three standard deviations (fail) of the expected value described on the assay certificate.

Between October 2015 – December 2020 a total 32 CRMs were submitted by Eastern as part of the rock chip, trenching, and drilling programs, representing an average overall insertion rate of 7%.

Gold values from the drilling program range from 0.01 g/t Au to 1.04 g/t Au. The seven CRMs used by Eastern adequately cover these grade ranges. However, the four highest gold value CRMs are all above the highest grade encountered to date. Given the low number of samples at this stage of the program, and the modest grades returned to date, it may be beneficial to exclude the two uppermost grade CRMs (2.99 g/t Au and 4.6 g/t Au) to monitor lab bias.

Control charts are commonly used to monitor the analytical performance of an individual CRM over time. CRM assay results are plotted in order of analysis. Control lines are also plotted on the chart for the expected value of the CRM, two standard deviations above and below the expected value, and three standard deviations above and below the expected value. These charts show analytical drift, bias, trends, and irregularities occurring at the laboratory over time.

Eastern's CRM performance is monitored on a batch by batch. Quality of assay data is visually reviewed on quality control charts. Assay results of a CRM within  $\pm 2SD$  of the recommended value are considered acceptable, and assays are concurrently assessed to determine the presence of any positive or negative bias.



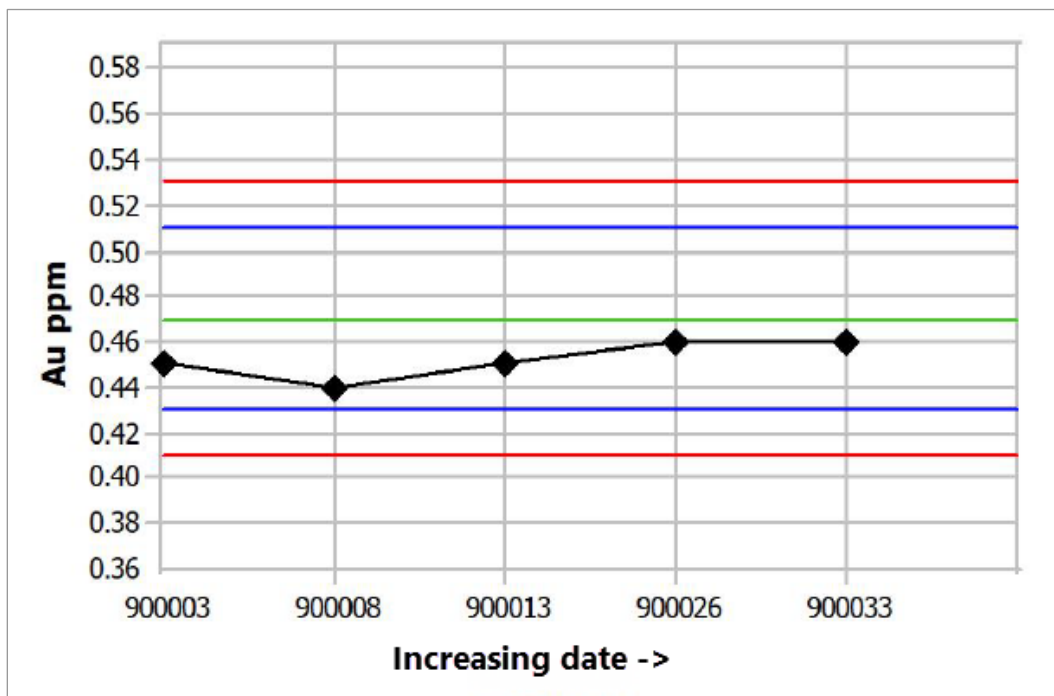
Table 11.6 presents details on the Kostilkovo CRM performance for gold between October 2015 - December 2020. Figure 11.2 to Figure 11.4 show selected CRM control charts for gold over the same period. It is noted that CRMs used at Kostilkovo generally show acceptable analytical accuracy. However, a low bias is noted for TPG002 and TPG007. The small number of samples on each CRM makes a definite conclusion on bias difficult.

Table 11.6 Eastern Au CRM results (July 2016 – 2019)

CRM ID	Expected value (Au)	SD	Number of assays	Low warning (-2SD)	High warning (+2SD)	Low fail (-3SD)	High fail (+3SD)	Fail % (>3SD)
TPG001	0.85	0.03	4	0	0	0	0	0.0
TPG002	0.47	0.02	5	0	0	0	0	0.0
TPG003	0.38	0.02	3	0	0	0	0	0.0
TPG004	1.31	0.04	4	0	0	0	0	0.0
TPG005	2.99	0.10	5	0	0	0	0	0.0
TPG006	1.73	0.06	7	0	0	0	0	0.0
TPG007	4.60	0.15	4	0	0	0	0	0.0

Notes: SD=standard deviation.  
Source: Compiled by AMC 2022.

Figure 11.2 Control chart for CRM TPG002- gold

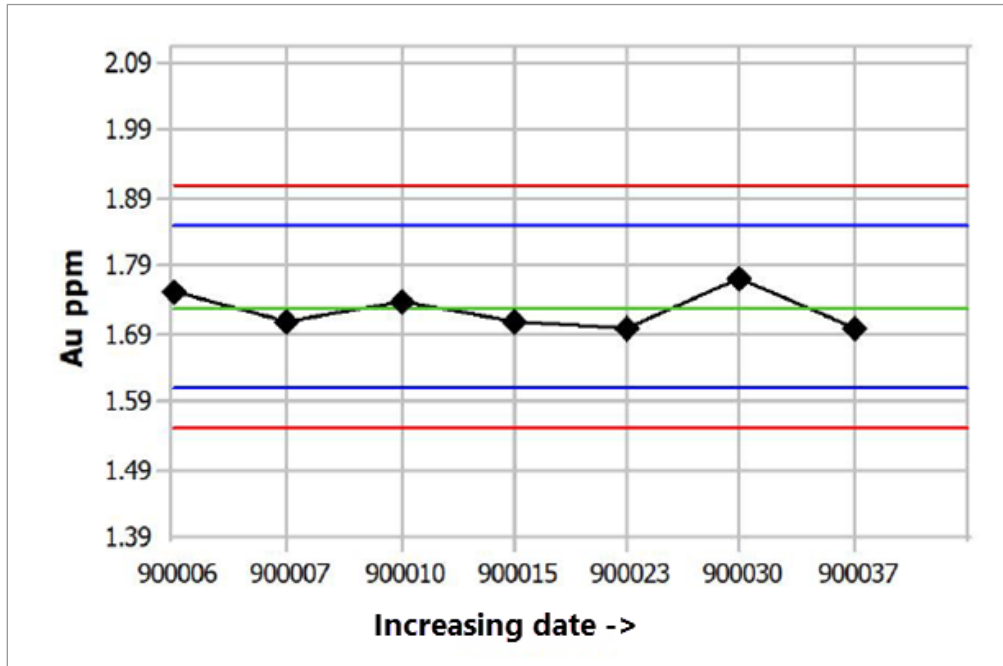


Notes:

- Red line is +/- 3 standard deviations. Blue line is +/- 2 standard deviations. Green line is expected value of Au.
- Limited samples but appears to be biased low.

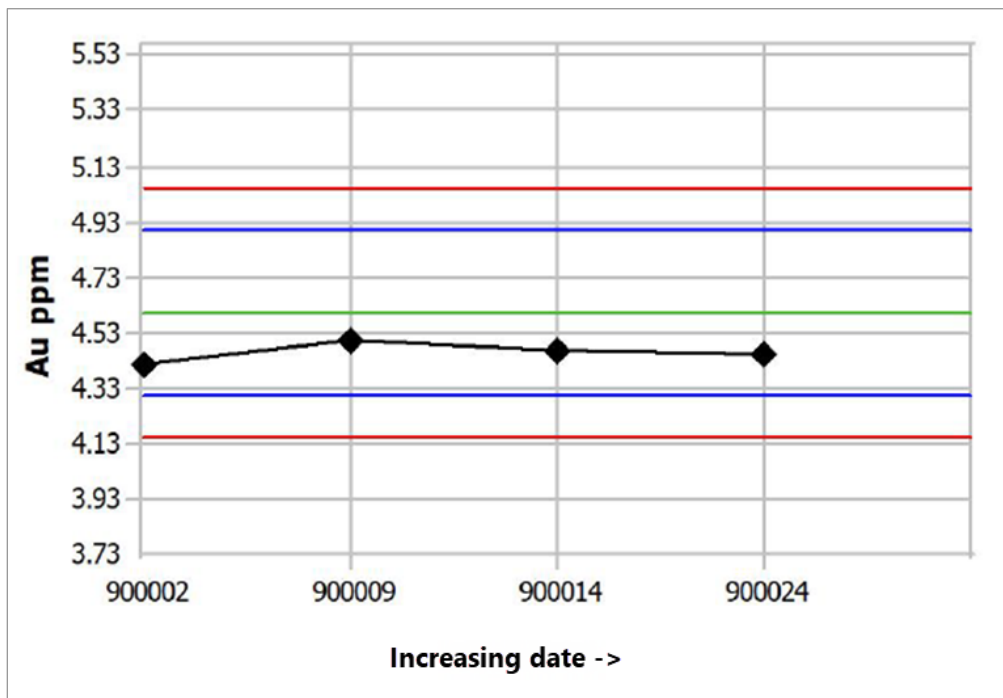
Source: Eastern, 2022.

Figure 11.3 Control chart for CRM TPG006 – gold



Note: Red line is +/- 3 standard deviations. Blue line is +/- 2 standard deviations. Green line is expected value of Au.  
 Source: Eastern 2022.

Figure 11.4 Control chart for CRM TPG007- gold



Note:

- Red line is +/- 3 standard deviations. Blue line is +/- 2 standard deviations. Green line is expected value of Au.
- Limited samples but appears to be biased low.

Source: Eastern, 2022.

**11.4.2.3 Recommendations for CRMs**

Reduce the number of CRMs during early exploration to ensure adequate analysis per CRM.

**11.4.3 Blanks**

Eastern did not independently insert blanks as part of their independent QA/QC program, but has advised that blank samples are intended to form part of future QA/QC programs.

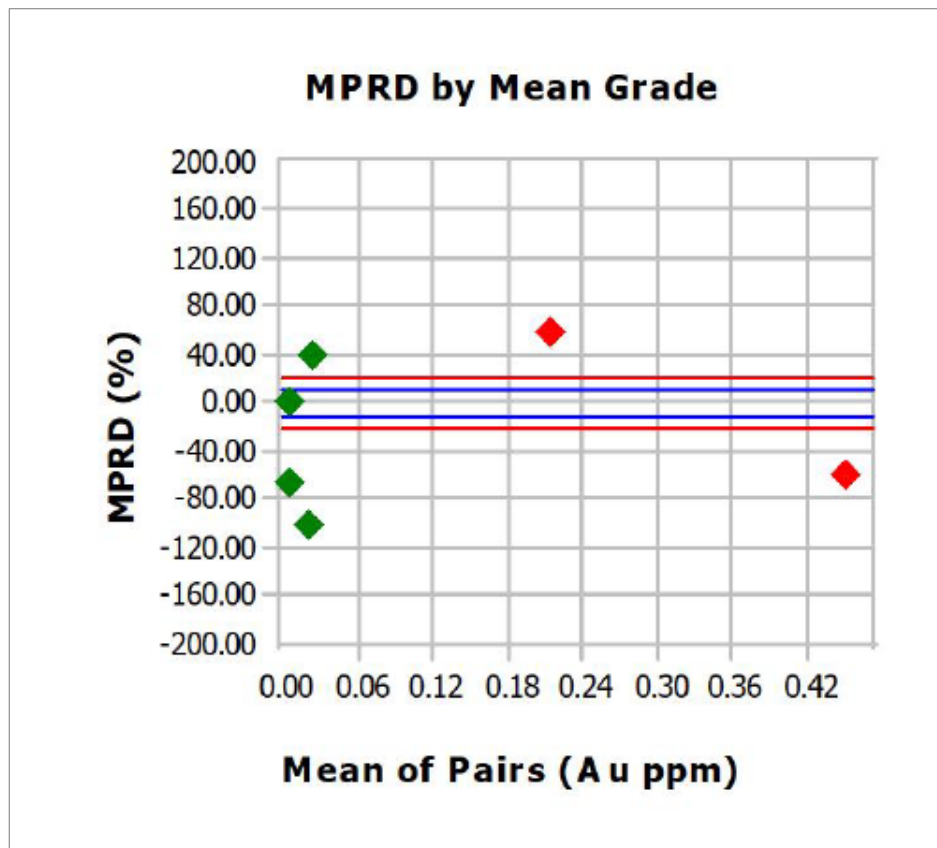
**11.4.4 Field duplicates**

Field duplicates monitor sampling variance, sample preparation and analytical variance, and geological variance. In environments such as high nugget precious metal deposits it may be difficult to distinguish the effects of sample preparation and analysis from the inherent variability of samples.

Eastern has submitted field duplicates as part of its rock chip sampling QA/QC program. Between 2015 and 2020, Eastern submitted nine field duplicates.

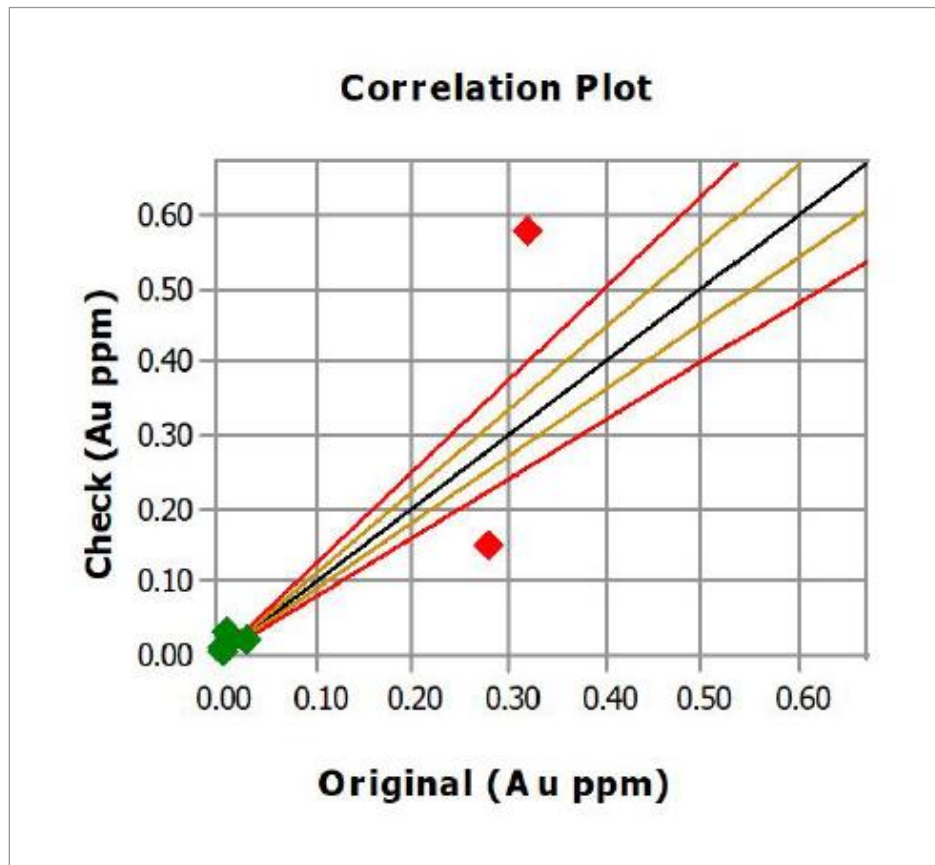
To analyze the differences between the original assays and check assays, Eastern has calculated the mean paired relative difference percent (MPRD%) values. The results for the full exploration period have been plotted as shown in Figure 11.5, along with a correlation chart for the corresponding period in Figure 11.6.

Figure 11.5 Gold mean paired relative difference percent for field duplicates



Source: Eastern, 2022.

Figure 11.6 Gold correlations for field duplicate pairs



Source: Eastern, 2022.

In consideration of the analytical error near the lower detection limit, the QP recommends that duplicate pairs be selected when the initial assay is 15 x the lower detection limit. Given the low number of duplicates currently above this value it is difficult to comment on the results at this time.

Duplicates insertion rates are highly variable over time. The QP recommends that a consistent insertion rate be maintained when grades in excess of 0.15 g/t Au are regularly returned.

#### 11.4.5 Umpire assaying

The objective of an umpire (check) assaying program is to confirm the accuracy of the primary laboratory and an estimate of the analytical variance + pulp sub-sampling variance.

Ideally, the umpire laboratory needs to be well recognized for producing exceptional accuracy, otherwise there is no mechanism for knowing whether the primary or umpire results are the more accurate. QC samples should also be inserted into samples batches sent to the umpire laboratory.

Eastern has not incorporated umpire assaying as part of the general QA/QC program. However, the seven metallurgical testwork samples from the Property, described in Section 13, were assayed at both SGS Bor and SGS Perth, Western Australia, laboratories, allowing for some level of inter-laboratory comparison. The summary results are shown in Table 11.7.

Table 11.7 Inter-laboratory assay comparison statistics

	SGS Bor	SGS Perth	Units
No. of pairs	7	7	
Minimum	0.27	0.24	g/t
Maximum	87.68	82.10	g/t
Mean	23.71	16.90	g/t
Std. Dev.	38.55	30.83	g/t
Coeff. of Var	0.26	0.33	

Source: Eastern.

#### 11.4.5.1 Discussion and recommendations for umpires

The small number of samples limits the confidence in any conclusions that can be drawn from the comparative statistics. The large range in values means that the mean grades will be highly sensitive, and any differences may not be reflective of the assaying accuracies.

For umpire assaying programs to be meaningful grade values should be 15 times or greater than the lower detection level (Au for SGS Bor is 0.01 g/t). The QP therefore considers the absence of routine umpire assaying at Kostilkovo to be reasonable until grades more than 0.15 g/t Au are regularly returned.

#### 11.4.6 Conclusions

Eastern has implemented industry standard practices for sample preparation, security, and analysis given the stage of the Project. This has included common industry QA/QC procedures to monitor the quality of the assay database, including inserting CRM samples and field sample duplicates into sample batches on a predetermined frequency basis. Blank samples will be introduced into their assay batches going forward. Lack of numerous samples above 15 x the lower detection has limited the number of conclusions that can be drawn from the duplicate and umpire data.

Overall, the QP considers the assay database to be acceptable for the purposes intended.

## 12 Data verification

### 12.1 Qualified Person's site visit

The QP visited the Property on 15 and 16 May 2022.

The objective of the site visit was to review the field locations of geological mapping, trenching, float sampling, and exploration drilling that had been undertaken by Eastern. Eastern's field work was focused on the examination of type-outcrops and geology present on the EL. As observed by the QP, no fieldwork or drilling activities were being conducted at the time of the visit.

To fulfil the proposed work, the following activities were undertaken:

- An orientation survey of the EL, on foot and by vehicle.
- Inspection of local infrastructure and access to field sites.
- Notes and photographs of type-outcrops.
- Inspection of trenches excavated by Eastern, with locations validated using a handheld GPS.
- Inspection of collar locations of exploration holes drilled by Eastern, with locations validated using a handheld GPS.
- Inspection of core from drillholes drilled by Eastern.
- On-site discussions with Sean Hasson (Executive Director Exploration, Eastern) and Mathias Knaak (Structural Geologist, Domlogic Geoservice), regarding mapping methodologies used, the logic of the proposed geological model, and how the model can be applied to the planned exploration program.
- Discussions regarding procedures followed by Eastern when mapping, taking grab, and rock chip samples.
- Discussions regarding procedures followed by Eastern in relation to exploration drilling, logging, and sampling procedures.

The QP reviewed the standards and procedures documentation provided by Eastern and considers that the exploration activities on the Property were undertaken in line with industry accepted practice.

The QP reviewed the diamond drill core at a storage facility at GEOPS Bolkan Drilling Services<sup>1</sup>. The QP took photographs of the core in the storage facility, where it has been packed in pallets and shrink-wrap sealed. The QP is satisfied that the core was intact at the time of the site visit and had been appropriately preserved.

### 12.2 Assay data verification

The QP supervised a cross-check of 24% of the assay results for gold and silver from an Eastern database export with analytical results on the original assay certificate. Checks focused on two drillholes KKDD003 and KKDD010.

The result of the verification is presented in Table 12.1.

---

<sup>1</sup> Address: 105 Zaharia Street, Neighbourhood Dolni Voden, Assenovgrad, Bulgaria.

Table 12.1 Assay verification results (drilling 2019 - 2020)

Year	Total samples	# samples selected for verification	Assays confirmed <sup>1</sup>	Errors noted <sup>2</sup>	Certificate error <sup>3</sup>	% samples verified
2019/2020	126	30	30	0	0	24

Notes:

<sup>1</sup> Assay results match certificate ignoring minor rounding and truncation discrepancies.

<sup>2</sup> Assay value does not match certificate by more than 1 g/t Ag or 0.01 g/t Au.

<sup>3</sup> Certificate reference number in the database incorrect.

The QP makes the following observations based on the data verification undertaken:

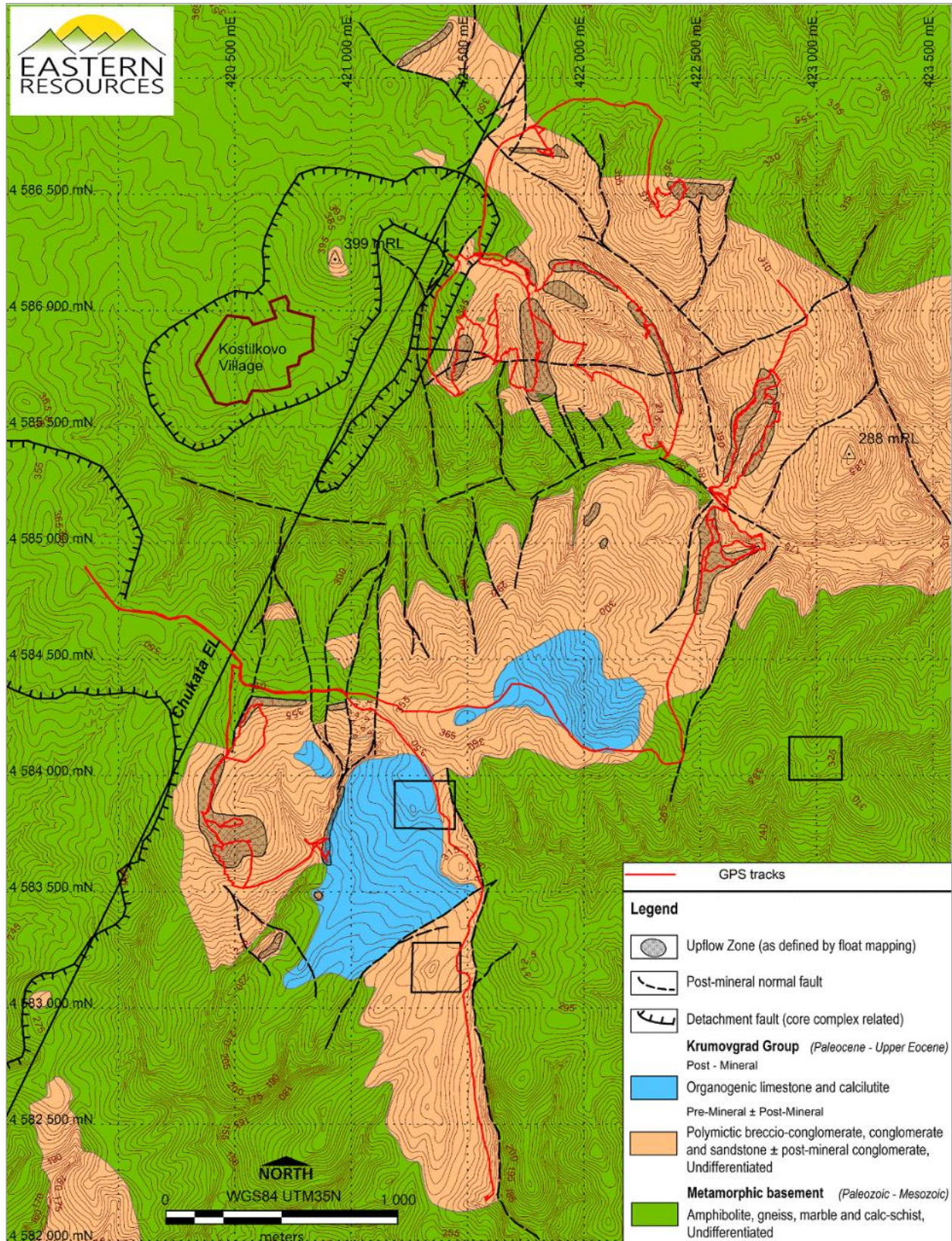
- Cross-checking of original assay results with the drilling database noted no errors out of 30 samples verified representing an error rate of 0%.
- Eastern's export of data from their acQuire Database did not include assay batch numbers. The QP is unclear if this is a function of the export into Excel or a true omission. The QP recommends that all assays in the database have a corresponding assay batch number.

### 12.3 Qualified Person's statement of confidence

The QP considers that recent data gathered by Eastern is sufficiently accurate for use in planning exploration drilling. Data verification has shown an accurate transfer of analytical data into the Eastern database.

The QP has reviewed documentation describing the standards and procedures used by Hereward and Eastern for their diamond drilling and QA/QC programs and concludes that they correspond to industry-accepted practice.

Figure 12.1 GPS track map of the areas visited by the QP during the site visit



Source: Eastern, 2022.



## 13 Mineral processing and metallurgical testing

### 13.1 Metallurgical testing

During 2016, Eastern selected seven quartz-adularia-illite vein float rock chip samples from the Izvorite and Chiflika prospect areas for preliminary investigative leaching behavior. The samples were selected with the objective of obtaining a spread across the grade range and spatially throughout the prospect areas (see Figure 13.1).

The objective of the program was twofold 1) to satisfy Eastern that the gold mineralized vein float material identified within the Project area to date did not behave in a refractory manner so as to 2) inform Eastern's due diligence program in support of submitting a competitive tender bid to the Ministry of Energy for the acquisition of the Property.

Samples were sent by SGS Bor laboratory, Serbia, under chain of custody to SGS Welshpool (Perth), Australia for testwork.

- All samples were ground to P<sub>80</sub> 75 µm then subjected to a 500 g, agitated CN bottle roll with pH 10 and excess NaCN.
- Solution samples were assayed for Au and Ag after 2, 6, 12, 24, and 48 hours.
- The testwork was designed to ensure maximum recoveries of Au and Ag.

Reaction kinetics and consumption rates will be investigated at a later stage.

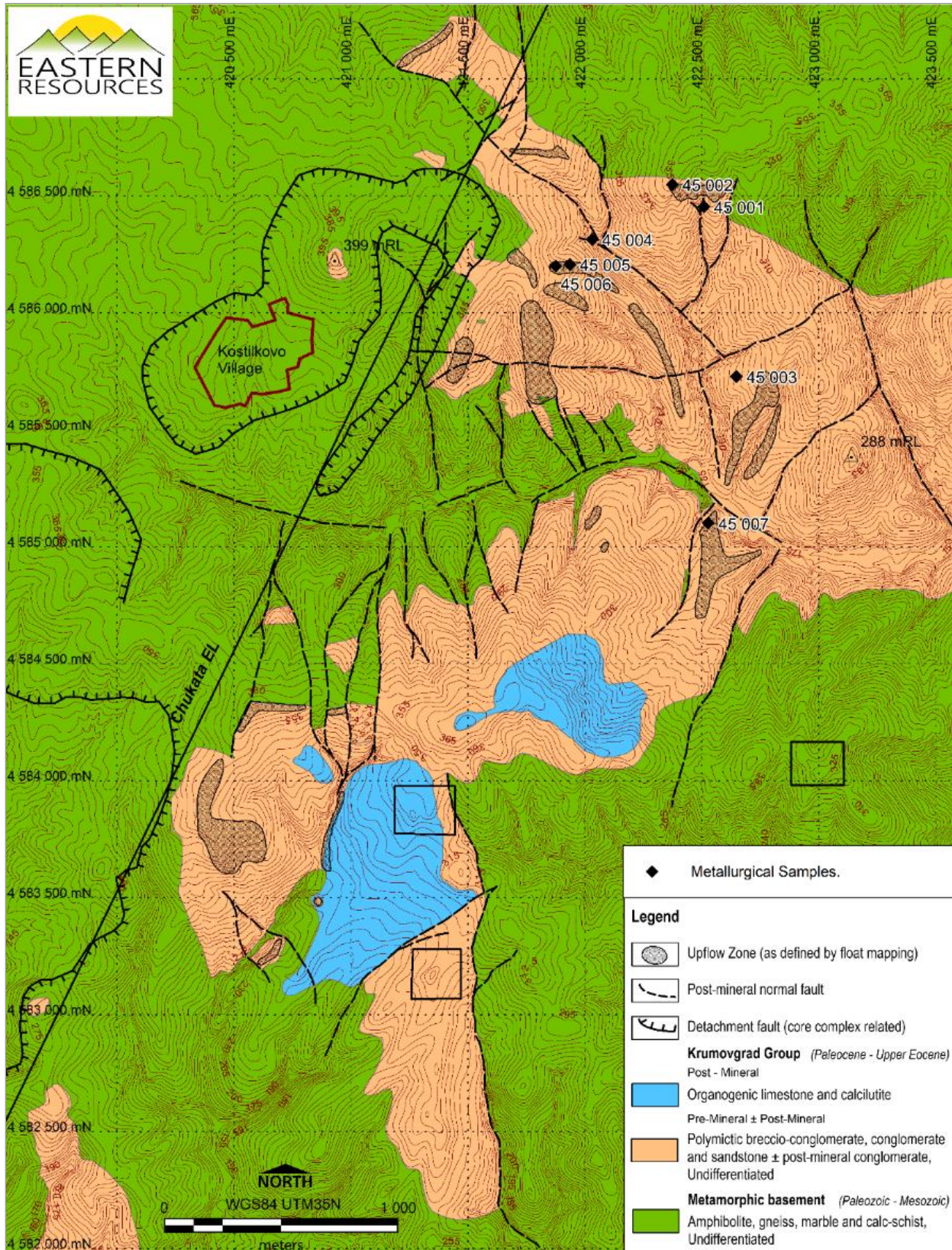
The rock chip and test work sample numbers are presented in Table 13.1 (see also Table 7.2 for mineralogy).

Table 13.1 Rock chip and test work sample numbers

Rock chip sample number	Test work sample number
150007	45001
150010	45002
150019	45003
45922	45004
45925	45005
150046	45006
45914	45007

Source: Eastern, 2016.

Figure 13.1 Eastern metallurgical test work sample location map



Source: Eastern, 2022.

Table 13.2 SGS Welshpool test work results for gold

		Extracted grade (g/t)	Residue grade (g/t)	Calc. head grade (g/t)	Assayed head grade (g/t)	Residue analysis (g/t)	Recovery % 24 hr	Recovery % 48 hr
45001	Au	0.26	0.02	0.28	0.24	0.02	92.8	92.8
45002	Au	0.31	0.01	0.32	0.26	0.01	96.9	96.9
45003	Au	2.08	0.06	2.14	2.09	0.06	95.7	97.2
45004	Au	1.81	0.11	1.92	1.65	0.11	92.2	93.9
45005	Au	39.11	0.14	39.25	30.85	0.13	99.1	99.7
45006	Au	1.14	0.06	1.19	1.09	0.06	95.1	95.1
45007	Au	77.90	1.03	78.93	82.10	1.03	98.7	98.7

Table 13.3 SGS Welshpool test work results for silver

		Extracted grade (g/t)	Residue grade (g/t)	Calc. head grade (g/t)	Assayed head grade (g/t)	Residue analysis (g/t)	Recovery % 24 hr	Recovery % 48 hr
45001	Ag	23.10	1.30	24.40	25.00	1.30	94.5	94.7
45002	Ag	10.00	1.45	11.50	11.80	1.45	86.9	87.4
45003	Ag	41.50	2.07	43.60	49.20	0.06	95.3	95.3
45004	Ag	1.12	0.90	2.02	1.46	0.90	54.6	55.4
45005	Ag	19.62	1.02	20.64	17.20	1.02	93.1	95.1
45006	Ag	142.55	6.99	149.54	144.00	6.99	95.3	95.3
45007	Ag	31.20	0.81	32.01	28.70	0.81	95.0	97.5

Source: Eastern, 2016.

Table 13.4 summarizes gold recoveries after 24 hours.

Table 13.4 24-hour gold recoveries

Sample sub-set	Number	From (%)	To (%)
All samples	7	>92.2	
Head grade <2.09 g/t	5	92.2	96.9
Head grade >2.09 g/t	2	>98.7	

There is insufficient data to define gold recoveries with acceptable uncertainty. The QP notes that additional test work is required to define the gold recovery variability that occurs at gold grades of <2.09 g/t, as well as to confirm the recoveries for gold grades >2.09 g/t.

Silver recoveries exhibit a monotonic relationship with silver grade and 24-hour recoveries over 93% for silver > 17 g/t. Below this silver grade, recoveries decline rapidly.

The high gold recoveries support an initial assessment that the samples tested are not refractory or include only minor quantities of refractory material.

### 13.2 Sample representativity

The QP notes that the samples tested are limited to a single lithology. Future metallurgical test work samples should be selected to include other lithologies to explicitly test for the presence of gold and silver. Future samples should also be selected to provide representativity of grade variability, geospatial variability, mineralogical, and metallurgical property variability.

## 13.3 Other factors

The QP notes that the samples tested have high recoveries and therefore may be free milling, however it is advised that gravity recovery gold tests and gold deportment analysis be undertaken to validate the bottle roll direct cyanidation leach tests.

To the QP's knowledge, assays of the cyanidation test leach liquor to confirm the level (or absence) of penalty or deleterious elements have not been undertaken. Future test work must include the determination of elements leached during cyanidation that may concentrate in the leach liquors, to assess their potential impact.

## 14 Mineral Resource estimates

This section is not applicable to this Technical Report.

## 15 Mineral Reserve estimates

This section is not applicable to this Technical Report.

## 16 Mining methods

This section is not applicable to this Technical Report.

## 17 Recovery methods

This section is not applicable to this Technical Report.



## 18 Project infrastructure

This section is not applicable to this Technical Report.

## 19 Market studies and contracts

This section is not applicable to this Technical Report.

## 20 Environmental studies, permitting and social or community impact

This section is not applicable to this Technical Report.

## 21 Capital and operating costs

This section is not applicable to this Technical Report.

## 22 Economic analysis

This section is not applicable to this Technical Report.

## 23 Adjacent properties

### 23.1 Introduction

The Project is located 55 km and 30 km by road, respectively, to the Ada Tepe Gold Mine and the Rozino (prefeasibility level) Gold Project. Figure 23.1 shows the locations of the adjacent properties, which represent similar mineralization styles to that identified on the Project i.e., low-sulphidation, epithermal quartz-adularia-illite vein hosted gold mineralization.

Figure 23.1 Location map of adjacent properties



Source: Eastern, 2022.

The QP has been unable to verify the information and that the information is not necessarily indicative of the mineralization on the Property that is the subject of the Technical Report.

### 23.2 Ada Tepe gold mine

The Ada Tepe mine is approximately 320 km south-east of Sofia, the capital of Bulgaria.

The Ada Tepe prospect was briefly explored by GeoEngineering of Assenovgrad, and Geology and Geophysics of Sofia in the 1990s. On 12 June 2000, Balkan Mineral and Mining EAD (BMM) (a 100% subsidiary of DPM) was awarded the Krumovgrad Licence area (113 km<sup>2</sup>) in accordance with the Agreement of Prospecting and Exploration reached with the Ministry of Economy.

Notwithstanding the distance from the Project, the Ada Tepe operation is a prime example of a high-level epithermal gold-silver deposit, formed during the Neogene within the Southern Rhodope tectonic zone. It is characterized as a low-sulphidation epithermal gold-silver deposit.

Construction commenced on the site of operations in the fourth quarter of 2016. Pre-stripping and stockpiling of ore started in July 2018, with the first concentrate being produced in March 2019 and the ramp up to operational production levels achieved in June 2019. The mining method used is open pit mining with conventional excavator and truck methods. Ore is processed by crushing in

the primary jaw crushing circuit, followed by grinding in a semi-autogenous grinding (SAG) milling circuit with a secondary grind in a vertimill circuit. Tailings and waste rock material are placed in an Integrated Mine Waste Facility (IMWF). The mill facilities and mine are developed, constructed, and operated by DPMKr, a wholly owned subsidiary of DPM.

The current Mineral Reserve estimate for Ada Tepe is based on 2,257 drillholes for 139,140 m (exploration and grade control) and 253 trenches for 10,710 m. Since 2017, pre-mining grade control (GC) reverse circulation (RC) drilling has been completed at 5 m by 5 m spacing. The GC drilling data (2,060 holes) were used in the 2020 Mineral Reserve Estimate.

Table 23.1 summarizes the most recent Mineral Reserve estimate, effective date 31 July 2020.

Table 23.1 Ada Tepe Mineral Reserve estimate, 31 July 2020

Category	Tonnes (Mt)	Au (g/t)	Ag (g/t)	Au (Moz)	Ag (Moz)
Proven	2.79	5.45	3.36	0.488	0.301
Probable	1.48	3.58	2.38	0.17	0.113
<b>Total</b>	<b>4.26</b>	<b>4.8</b>	<b>3.02</b>	<b>0.658</b>	<b>0.414</b>

Notes:

- Mineral Reserves have been estimated using a cut-off of 0.6 g/t Au for the Upper Zone, and 0.8 g/t Au for the Wall Zone.
- Long-term metal prices assumed for the evaluation of the Mineral Reserves are US\$1,250/oz for Au and US\$17/oz for Ag.

Source: Ada Tepe NI 43-101 Technical Report, 20 November 2020, Table 1-2.

### 23.3 Rozino Gold Project

The Rozino Gold Project it is located within the Tintyava Property, which lies within the municipalities of Ivailovgrad and Krumovgrad in south-east Bulgaria, about 350 km by road east-southeast of the capital, Sofia. The Tintyava Property, covered by Decision No. 467, has an area of approximately 145 km<sup>2</sup>. It is accessible year-round by sealed roads, with forestry roads and exploration tracks providing year-round access within the Property.

The original Exploration Licence (EL) containing the Rozino deposit was cancelled in 2013. In 2016 Gorubso-Kardzhali AD (Gorubso) won a competitive tender for exploration rights. As part of an earn-in option agreement Velocity Minerals Ltd. (Velocity) began exploration in July 2017 and in February 2018 the Project was formally transferred from Gorubso to Tintyava Exploration EAD, the joint venture vehicle for Velocity and Gorubso.

Rozino is a low-sulphidation epithermal gold deposit hosted within conglomeratic Palaeogene sedimentary rocks. Alteration is characterized by a quartz, carbonate, chlorite, adularia, pyrite assemblage. The mineralogy consists mainly of pyrite, with traces of base metals and rare arsenopyrite. Gold occurs at sulphide mineral boundaries and less commonly as free grains or encapsulated inclusions.

The latest Mineral Reserve estimate for the Rozino Gold Project is presented in Table 23.2.

Table 23.2 Rozino Probable Mineral Reserve estimate, 30 August 2020

Ore type	Tonnes (Mt)	Au (g/t)	Au (koz)	Metallurgical recovery (%)	Recoverable metal (Au koz)
Oxide	1.9	1.07	64	67.4	43
Transitional	1.8	1.15	68	70.7	48
Sulphide	8.1	1.27	332	83.3	277
<b>Total</b>	<b>11.8</b>	<b>1.22</b>	<b>464</b>	<b>79.3</b>	<b>368</b>

Notes:

- Mineral Reserve cut-off grade is 0.5 g/t gold.
- Mineral Reserves are based on a \$1,500/oz gold price.
- Mineral Reserves account for mining dilution and ore loss.
- Probable Mineral Reserves are estimated from Indicated Mineral Resources.

Source: Rozino Gold Project Pre-Feasibility Technical Report, 14 October 2020.

### 23.4 Source of information

The information regarding Ada Tepe is summarized from a CSA Global report written for DPM, and titled Ada Tepe NI 43-101 Technical Report, 20 November 2020.

The information regarding the Rozino Gold Project is summarized from a CSA Global report written for Velocity Minerals Ltd, and titled, Rozino Gold Project Pre-feasibility Study Technical Report, 14 October 2020.



## 24 Other relevant data and information

The QP is unaware of any additional information or data that is relevant to the Property that would make the report more understandable and not misleading.

## 25 Interpretation and conclusions

The Property remains prospective for gold mineralization, having been underexplored since the 1980s. Neither the Bulgarian State or Hereward were successful in identifying the likely controls on mineralization within the Property.

The previous owners appear not to have developed a conceptual geological model that could be tested, and the Property was relinquished by Hereward, having failed to identify any viable gold deposits on the Project.

The QP considers the conceptual model proposed by Eastern to be valid and should be tested by exploration drilling. The Project occurs within a regional belt of related deposits / occurrences which represent the oldest known Tertiary gold mineralization event within the Eastern Rhodope metallogenic province and are classified as low-sulphidation epithermal and / or quartz-adularia-illite type gold systems.

Quartz, chalcedony, adularia (K feldspar), illite (celadonite) together with lesser calcite and pyrite (<1 vol. %) are the main hydrothermal minerals; gold and silver are present as electrum, minor native silver has been recorded.

Quartz-adularia-illite vein float material is almost exclusively found within the sedimentary rocks of the Krumovgrad Group and in particular the Classic Breccio-Conglomerate Unit. This style of gold mineralization is the dominant style found across the Project.

Geometallurgical observations suggest that gold mineralization is intimately associated with quartz-adularia-illite veins and early metallurgical testwork suggests that the samples exhibit free-milling characteristics @ P<sub>80</sub> 75 µm.

The QP is unaware of any significant risks and/ or uncertainties that could reasonably be expected to affect the reliability or confidence in the exploration information that is planned to be gathered by St Charles. In the case of any exploration program, the inherent risk is that mineralization in economic concentrations that will justify a mine will not be found. The QP cannot guarantee that changing Environmental, Social, Governance or other factors will change the project's potential economic viability or continued viability.

## 26 Recommendations

Based on this Technical Report and in consideration of Eastern's exploration strategy, the QP makes the following exploration recommendations for the first year of exploration on the Kostilkovo Gold Project which is located on the Chukata Property:

- To initially drill test beneath the mapped upflow zones located within the Izvorite and Runkite prospect areas with approximately 8 diamond drillholes for a total of 1,500 m.

The proposed budget and exploration drilling program detailed in Table 26.1 covers a nominal 12-month period (ending December 2023) during which the exploration activities over the Kostilkovo Gold Project are expected to have been completed.

Table 26.1 Planned exploration budget and activities

Description	Cost (C\$)
Drill Pad and Access Preparation	15,000
Diamond Drilling (PQ) 96 m	13,000
Diamond Drilling (HQ3) 1,404 m	170,000
Drill Pad Rehabilitation	2,000
Core Trays, Orientation Tool, Sample Bags, etc.	10,000
Assay (incl. ~20% QA/QC)	65,000
Personnel	53,000
Database Management	15,000
Field and Office Costs	20,000
Preliminary Metallurgical Test Work	5,000
Tenement Cost	11,000
<b>Total</b>	<b>379,000</b>

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## 28 QP Certificates

### CERTIFICATE OF AUTHOR

I, Mark Burnett, CGeol (UK), Euro. Geol (Europe), of Maidenhead, United Kingdom, do hereby certify that:

- 1 I am currently employed as a Principal Geologist with AMC Consultants (UK) Limited with an office at Building 3, 1st Floor, Concorde Park, Concorde Road, Maidenhead SL6 4BY United Kingdom.
- 2 This certificate applies to the Technical Report titled "Kostilkovo Gold Project NI 43-101", with an effective date of 8 September 2022, (the "Technical Report") prepared for St. Charles Resources Inc. ("the Issuer").
- 3 I am a graduate of University of the Witwatersrand in Johannesburg, South Africa (Bachelor of Science in Geology (Hons)) and of the University of the Free State in Bloemfontein, South Africa (Master of Science in Mineral Resource Management). I am a member in good standing of the European Federation of Geologists (License #1779), and the Geological Society of London (License #1041787). I have worked as a professional geologist for 30 years since graduation in 1992.

My relevant experience for the purpose of the Technical Report includes:

- Since 2007 - Consulting geologist specializing in reviews and audits for a variety of early, advanced, and operational gold projects and mines in Africa and Russia.
- 2005 to 2007 - I reviewed and visited low, medium, and high sulphidization gold exploration projects and operational mines in Southeastern Europe and Southwestern Asia as potential acquisition projects in my role as New Business Manager (Technical), with Harmony Gold Mining company.

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.

- 4 I have visited the Kostilkovo Project from 15 to 16 May 2022.
- 5 I am responsible for Sections 1 – 12 and 14 - 27 of the Technical Report.
- 6 I am independent of the Issuer and related companies applying all of the tests in Section 1.5 of NI 43-101.
- 7 I have not had prior involvement with the property that is the subject of the Technical Report.
- 8 I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.
- 9 As of the effective date of the Technical Report and the date of this certificate, to the best of my knowledge, information and belief, this Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Effective Date: 8 September 2022

Signing Date: 21 February 2023

*Original signed by*

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Mark Burnett, CGeol (UK), EurGeol (Europe)  
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## CERTIFICATE OF AUTHOR

I, Dr Paul Greenhill, FAusIMM (CP), of Melbourne, Victoria, do hereby certify that:

- 1 I am currently employed as a Principal Consultant with AMC Consultants Pty Ltd with an office at Level 29, 140 William Street, Melbourne Vic 3000 Australia.
- 2 This certificate applies to the technical report titled "Kostilkovo Gold Project NI 43-101", with an effective date of 8 September 2022, (the "Technical Report") prepared for St. Charles Resources Inc. ("the Issuer").
- 3 I am a graduate of University of Tasmania in Hobart, Australia (Bachelor of Science (Hons) in 1981 and Doctor of Philosophy in 1986). I am a member in good standing of the Australasian Institute of Mining and Metallurgy (License #204579). I have practiced my profession for 35 years since graduation and have relevant experience in the metallurgy of precious and base metals.  
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.
- 4 I have not visited the Kostilkovo Project.
- 5 I am responsible for Section 13 and parts of 1, 25, 26, and 27 of the Technical Report.
- 6 I am independent of the Issuer and related companies applying all of the tests in Section 1.5 of the NI 43-101.
- 7 I have not had prior involvement with the property that is the subject of the Technical Report.
- 8 I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.
- 9 As of the effective date of the Technical Report and the date of this certificate, to the best of my knowledge, information and belief, this Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Effective Date: 8 September 2022

Signing Date: 21 February 2023

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