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Mining Industry Consultants
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NI 43-101 TECHNICAL REPORT

Klyntsi Gold Project, Ukraine – Mineral Resource Estimate

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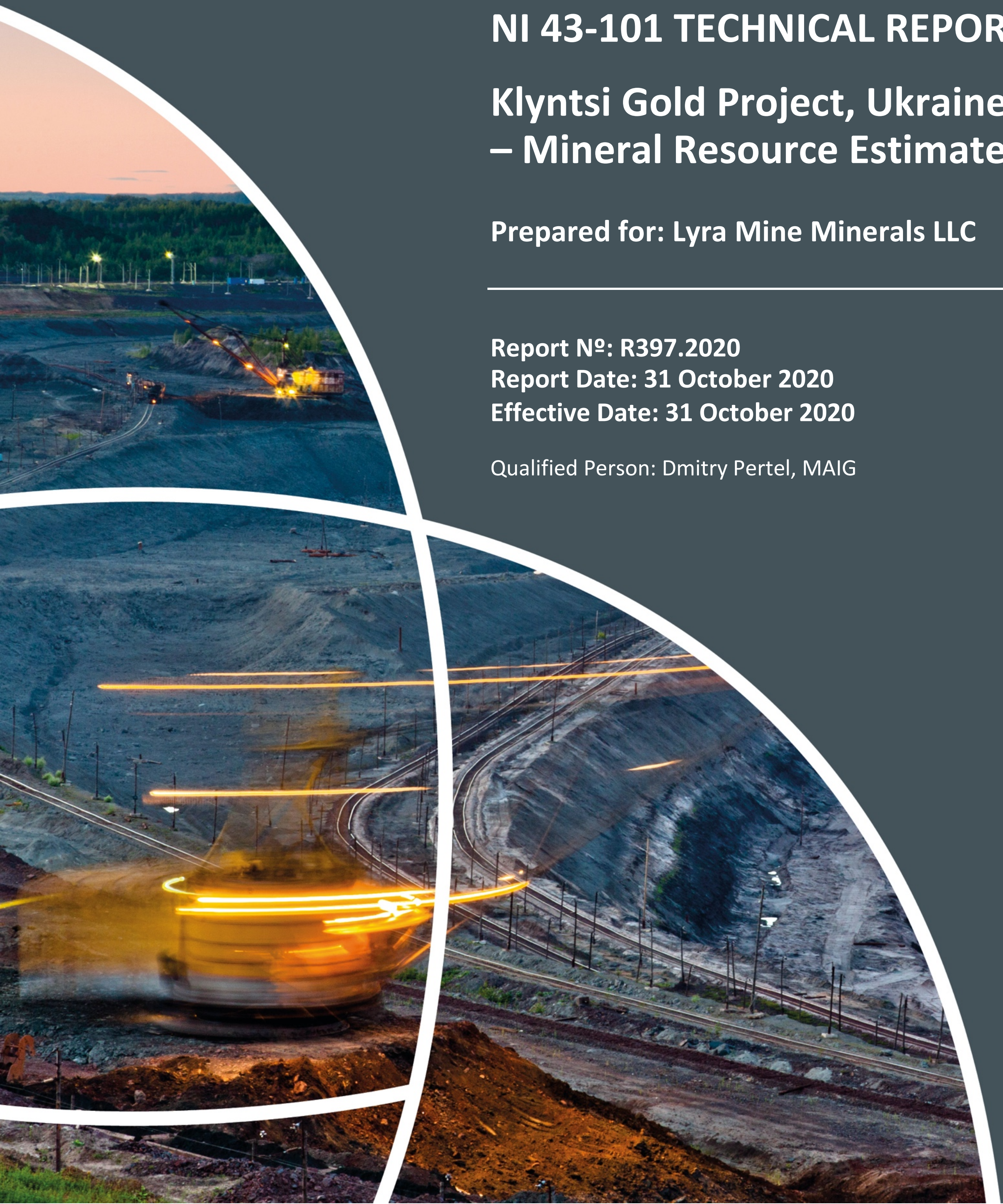

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1 Summary

1.1 Introduction

In April 2020, CSA Global Pty Ltd (CSA Global), an ERM Group company, was commissioned by Lyra Mine Minerals LLC (Lyra) to prepare a Mineral Resource estimate (MRE) and to prepare a Technical Report for the Klyntsi Gold Project ("Klyntsi" or the "Project") located in the Kirovograd region of Ukraine. The Report is reported in accordance with National Instrument 43-101 (NI 43-101 – 30 June 2011), companion policy NI 43-101CP, and Form 43-101F1 (Standards of Disclosure for Mineral Projects). The Mineral Resource has been prepared in accordance with CIM Definition Standards for Mineral Resources and Mineral Reserves (10 May 2014). Only Mineral Resources are estimated – no Mineral Reserves are defined.

The Klyntsi Gold Project lies within Mining Permit No. 6371 which is 100% owned by Lyra.

The MRE and NI 43-101 Technical Report were commissioned by Lyra to support the continued development of the Project and to estimate the Mineral Resources using all available historical analytical data as well as analyses from five verification drillholes completed in 2020. CSA Global is not aware of any previous MRE developed in line with the JORC Code or CIM guidelines.

1.2 Property Description and Location

Lyra's exploration operations are located in the Central part of Ukraine. The country is bordered by Russia to the east, Moldova and Romania to the south, Belarus to the north, and Slovakia, Poland and Hungary to the west.

The Klyntsi Gold Project is located in the Kirovohrad region about 15 km north of the city of Kropyvnytskyi, which is the capital of the region with a population of approximately 225,000, and in close proximity to the Klyntsi, Kalynivka and Hubivka villages.

1.3 Land Tenure

The Klyntsi Project is located in the Kirovohrad region of Ukraine and has a total area of 1.013 km^2.

The Mining Permit for Klyntsi was granted on 20 September 2019 and is valid until 20 September 2034.

1.4 Existing Infrastructure

The Project can be accessed by concrete road from Klyntsi village, which connects 10 km to the north with the Kropyvnytskyi ring road.

Boryspil International Airport is located 300 km to the north. Kropyvnytskyi also has an airport with a much shorter runway; however, nearly all flights operating from this airport are charters. The Project area is easily traversed by all-terrain vehicles or four-wheel drive cars.

The Inhul uranium mine with associated infrastructure is located 8 km northwest of the deposit. A railway branch was built from the railway to the Inhul mine. In order to connect Klyntsi with the mine branch, it will be necessary to build 6–8 km of railway track, or a concrete road.

The Project is located close to all the infrastructure required to build and operate a mine, with highways, roads and railway access, as well as powerlines, natural gas, and water sources. The nearby Ingul mine has a staff of about 1,600 and has been operating since 1967. Its uranium resources are being exhausted and work is planned to be cut in the coming years.

1.5 History

The Klyntsi deposit has been explored since the late 1980s. These programs have included 368 historical exploration diamond holes (108,300 m) and one underground level with 520 channel samples (3,640 assayed metres).

Systematic gold exploration involved several stages:

- Geological mapping with prospecting and revision activities for gold – 1985 to 1989
- Prospecting exploration – 1988 to 1994
- Mining and drilling exploration – 1991 to 1996
- Advanced exploration – 2001 to 2004
- Preliminary geological and economic assessment – 2018 (Lyra).

A total of 368 holes (108,622 m) were drilled within the Central and Hubivka sites; 45 m of vertical and 1,378 m of horizontal underground exploration workings were completed within the Central site.

In April 2020, Lyra commenced a new drilling program to confirm the mineralisation parameters to be used in the MRE. Five holes from this program, completed in the first half of 2020, are included in this MRE.

1.6 Geology and Mineralisation

The Klyntsi deposit is located in the central part of the Kirovohrad (Inhul) megablock of the Ukrainian Shield. This territory has a clear pronounced two-level structure: the lower structural level is represented by complexly dislocated formations of the Lower Proterozoic age, while the upper level is represented by horizontally lying Mesozoic and Cenozoic units.

The Klyntsi deposit is located in the eastern flank of the Novoukrainka and Bobrynets massifs, in the zone of influence of Kirovograd and Hrushkivka-Kalynivka deep sub-meridional faults.

Mineralisation within the deposit is localised in the gneisses of the Checheliivka Suite of the Inhul-Inhulets Sequence. Mineralisation contained within the Mineral Resource is enclosed in a zone with a thickness of 20–120 m, with an average width of 42 m, and a length of 3.0 km (Klyntsi site), and 2.3 km (Hubivka site). In general, the mineralised zone is characterised by intense silicification, sulphidisation (3–5%), amphibolisation, and tourmalisation. Variously oriented fracturing and partial crushing are noted. Drilling results indicated the zone can be traced down dip to a depth of 400–500 m from the surface without visible pinching out.

The mineralised bodies have a complex structure with variable thickness along strike and dip. Mineralisation is associated with metasomatic alterations of metamorphic rocks, which accompany disjunctive dislocation.

The mineralisation of the Klyntsi deposit is vein-disseminated, containing arsenopyrite, loellingite, several types of pyrrhotite, pyrite, rarely chalcopyrite. The distribution of gold in mineralised bodies is very to extremely uneven. The range of grade as determined from surface samples and drill sample assays varies from 0.5 g/t to over 400 g/t.

1.7 Exploration Status

The Klyntsi deposit has been explored since the late 1980s. These programs have included a total 368 historical exploration diamond holes (108,300 m) and one underground level with 520 channel samples (3,640 assayed metres). Validation drilling in 2020 resulted in five additional holes with the total length of 1,180 m.

Current exploration status allowed classification of Mineral Resources as Indicated (approximately 30% of the Mineral Resource volume) and Inferred (70%).

Further exploration is required to update the classification of the deposit to higher categories.

1.8 Mineral Resources

The Mineral Resource was estimated by Ordinary Kriging (OK) using a geological model and a 0.5 g/t Au cut-off grade to define the mineralised envelope. All mineralised intervals were flagged and composited to 1.0 m and estimated into blocks with parent cell dimensions of 5 m (east) x 10 m (north) x 10 m (RL). The MRE was completed by CSA Global's Principal Resource Geologist, Dmitry Pertel (MAIG) who is the Qualified Person for this Report.

The MRE has considered information from all main phases of exploration and evaluation, and the results of quality assurance/quality control (QAQC) analysis, to develop this updated MRE.

Nataliia Bariatska, Chief Geologist for Geological Service Company LLC (GSC), visited the Klyntsi Project area during April and May 2020 at the request of Lyra. The purpose of the visit was to examine resource definition drilling practices used at Lyra and collect QAQC data.

Review and analysis of both the historical and recent QAQC data, procedures and protocols indicate that the quality of data is acceptable to allow Mineral Resources to be reported in accordance with the CIM guidelines. The risk associated with the quality of the data is believed to be low.

The most recent exploration programs at the deposit were run by the Lyra exploration team. Lyra provided CSA Global with all exploration results completed to date and an updated project database. The databases included drillhole collar coordinates, lithological codes and analytical information for gold. All gold grades used for estimating Mineral Resources were analysed using fire assays. The topographic surface was provided in form of a digital terrain model (DTM) based on surface topographic survey data.

Geological interpretation and wireframing were updated and completed by GSC under CSA Global's supervision and included interpretation of the main mineralised bodies based on a nominal cut-off grade of 0.5 g/t Au. The interpretation was based on the current understanding of the deposit geology, using a full set of manually interpreted geological cross-sections and lithological codes in the provided downhole data. Closed wireframe models were generated for each modelled mineralised body.

The OK method was chosen to interpolate gold grades into a block model. Dry bulk density value of 2.73 t/m^3 and 2.70 t/m^3 were calculated following exploration programs and directly assigned to the model for the Klyntsi and Hibivka zones, respectively.

The Mineral Resources have been classified and reported in accordance with the CIM guidelines. Mineral Resource classification is based on confidence in the adopted sampling methods, geological interpretation, drillhole spacing and geostatistical assessment.

The Mineral Resource has been reported above a cut-off of 1.0 g/t Au and is current to 31 October 2020.

The Mineral Resource statement is shown in Table 1.1.

Table 1.1: Klyntsi Mineral Resources with an Effective Date of 31 October 2020

Klyntsi Mineral Resources, October 2020					
Category	**Zone**	**Tonnes (Mt)**	**Gold**		
			Grade (g/t)	**Metal (t)**	**Metal (koz)**
Indicated	Klyntsi	1.8	2.8	4.8	156
	Hubivka	0.3	2.5	0.8	26
Total Indicated		**2.1**	**2.7**	**5.6**	**182**
Inferred	Klyntsi	4.0	2.4	9.6	309
	Hubivka	0.7	3.0	2.2	70
Total Inferred		**4.7**	**2.5**	**11.8**	**379**

Notes:

- *Mineral Resources are classified according to the CIM Definition Standards for Mineral Resources and Mineral Reserves (10 May 2014).*
- *The MRE was prepared by Dmitry Pertel, MAIG, (CSA Global).*
- *The Effective Date of the MRE is 31 October 2020.*
- *A reporting cut-off grade of 1.0 g/t Au has been applied.*
- *A bulk density value of 2.73 t/m^3 and 2.70 t/m^3 was used for all model cells in the Klyntsi and Hubivka zones, respectively.*
- *No Measured Resources or Mineral Reserves of any category were identified.*

- *Mineral resources are not mineral reserves and by definition do not demonstrate economic viability. This MRE includes inferred Mineral Resources that are normally considered too speculative geologically to have economic considerations applied to them that would enable them to be categorised as mineral reserves.*
- *Rows and columns may not add up exactly due to rounding.*

1.9 Interpretation and Conclusions

CSA Global has prepared a MRE for the Project and have classified the Mineral Resources in the Indicated and Inferred categories.

CSA Global concludes the following:

- The data and work completed to date is of high standard allowing the estimation of a reliable Mineral Resource for the Project.
- The current MRE is a reliable estimate of the gold mineralized bodies intersected to date at Klyntsi, based on gold assays and lithological cross-sections of the deposit.
- The Mineral Resource model classified as Indicated is sufficiently reliable to support engineering and design studies to evaluate the economic viability of a mining project.
- Infill drilling in critical areas would significantly reduce any potential risk in future Mineral Resource updates and economic assessments of the Project, particularly for the deeper parts of the deposit that may be amenable to underground mining.
- Lyra should consider progressing additional exploration to expand resources at Klyntsi, to define strike extensions to the deposit.
- Further studies are recommended to assess the economic viability of the Project. Initially, the Project should be subject to a Preliminary Economic Assessment (PEA) to assess the economics and areas that require more detailed study, which may allow the Project to advance to a Prefeasibility study (PFS).

1.9.1 Risks

A review of the Project risks identified the following:

- Environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other relevant issues could potentially affect this MRE; however, the author is not aware of any such factors as of the Effective Date.
- Technical factors which may affect the MREs include:
    - Potential future conceptual study assessments of mining, processing and other factors
    - Gold price and valuation assumptions
    - Changes to the assumptions used to estimate gold content (e.g. bulk density estimation, grade model methodology)
    - Geological interpretation (revision of lithologic contacts, mineralisation domains, modelling of internal waste domains, etc.)
    - Changes to design parameter assumptions that pertain to the resource constraining conceptual pit shell
    - Changes to geotechnical and mining assumptions, including the maximum pit slope angle; or the identification of alternative mining methods
    - Changes to process recovery estimates if the metallurgical recovery in certain domains is less or greater than currently assumed.
- Infill drilling in critical areas would significantly reduce geological risk in the resource estimation and allow increased classification of the Mineral Resources.
- Permitting: Lyra obtained Mining Permit No. 6371 dated 20 September 2019 which is valid until 20 September 2034. The Klyntsi Permit has a total area of 1.013 km^2. To meet further permitting requirements, Lyra is targeting to deliver a PFS and Environmental Impact Study. Lyra expects the overall

permitting process to take four to six months, consistent with the timeline of other gold projects recently permitted in Ukraine.

- Environmental and social: Baseline studies have been commenced by Lyra to support permitting of the Project. The Klyntsi deposit is located in a developed region with sufficient access to water.

1.9.2 Opportunities

Mineral Resource

he 2020 Mineral Resource model documented herein is sufficiently reliable to support engineering and design studies to evaluate the viability of a mining project at a preliminary economic analysis level and for the Indicated Resources a higher study such as a prefeasibility level.

It is expected that significant part of the deposit could potentially be mined using underground mining techniques. However, some areas of the deposit could also be mined using open pit methods.

Results of the metallurgical testwork shows the mineralogy and metallurgy of the Klyntsi mineralisation is readily amenable to conventional gold recovery using gravity-flotation enrichment with achieved average 83% gold recovery.

Environmental and Social

Baseline studies have been commenced by Lyra to support permitting of the Project. The Klyntsi deposit is located in a relatively developed and populated part of the country with developed infrastructure and easy access to the required workforce. These conditions may be favourable for mine development.

1.10 Recommendations

CSA Global recommends the following are completed to support ongoing exploration and a PFS:

- Current QAQC procedures should be maintained to ensure high quality-data is available for subsequent MREs.
- Further exploration and evaluation programs could upgrade the confidence of the extent and quality of mineralisation at the deeper parts and of the flanks of the Klyntsi deposit. Additional infill drilling if successful would allow an increase in resource classification.
- Complete an integrated assessment of the geometallurgy of the deposit to better define Mineral Resource domains and for improved metallurgical recovery should the Project proceed to mining.
- Additional metallurgical tests are recommended to assess the recovery of gold and to optimise the processing route.
- More detailed assessment of the impacts of hydrology and hydrogeology for mining both open cut and underground mining scenarios.
- A geotechnical study to better understand the rock mechanics of the various lithologies within the deposit to support mine design and any future mining.
- Commence more detailed environmental studies to support more detailed feasibility studies at the Project.

A proposed budget for the work above is provided in Table 1.2 below.

Table 1.2: Next phase budget estimate

Work program	Approximate cost (US$)
General, vehicles, camp	$400,000
Metallurgical testwork and analysis	$500,000
Geometallurgy modelling	$100,000
Hydrological and hydrogeological work	$600,000
Geotechnical work	$800,000
Environmental impact assessment	$500,000
Engineering studies (PFS, PEA)	$800,000
Discretionary expansion (and infill) drilling	$2,000,000
Total	**$5,700,000**

2 Introduction

2.1 Issuer

Lyra is a mineral exploration and development company based in Kyiv, Ukraine. Founded in 2018, Lyra has been successfully investigating the gold potential of the Klyntsi permit currently covering approximately 1.013 km^2 in the Kirovograd region of Ukraine. Exploration and evaluation programs at Klyntsi completed to date are sufficient to estimate Mineral Resources.

CSA Global is a geological, mining and management consulting company with more than 30 years' experience in the international mining industry. Headquartered in Perth, Western Australia, the company has 10 offices located in Australia, Canada, the United Kingdom, South Africa, Indonesia, and Dubai. CSA Global services cover all aspects of the mining industry from project generation to exploration, evaluation, development, operations, and corporate advice. CSA Global has undertaken the geological assessment and resource estimation for the Klyntsi Gold Project, including the site inspection by subcontracted GSC.

GSC is a consulting company based in Kyiv. It specialises in exploration, geological and economic evaluation, and Mineral Resource estimation in accordance with international and Ukrainian standards. Since it was not possible to travel from Australia to the project site due to the pandemic situation with COVID-19 and closed international borders, CSA Global requested a Qualified Person from GSC to conduct the site visit and QAQC analysis.

2.2 Terms of Reference

Lyra engaged CSA Global to prepare this Independent Technical Report on the Klyntsi Gold Project. This Technical Report is based on the outcomes of the exploration programs completed by Cherkasy Geological Exploration Expedition and Ukrainian Polymetals between 1988 and 2004, and by Lyra up to and including 31 October 2020 (the "Effective Date"). The Report is based on information known to the author and CSA Global at that date.

The primary purpose of this document ("the Report") is to report the MRE for the Klyntsi Gold Project.

The Report is specific to the standards dictated by NI 43-101 (30 June 2011), companion policy NI 43-101CP, and Form 43-101F1 (Standards of Disclosure for Mineral Projects). The MRE has been prepared in accordance with CIM Definition Standards for Mineral Resources and Mineral Reserves (10 May 2014) and reported as per NI 43-101 requirements. Only Mineral Resources are estimated – no Mineral Reserves are defined.

CSA Global acted independently as Lyra's consultant and was paid fees based on standard hourly rates for the services provided. The fee was commensurate with the work completed and was not contingent on the outcome of the work. Neither CSA Global, nor any of its staff rendering the services in connection with this Report, had any material, financial or pecuniary interest in Lyra or its subsidiaries, or in the Project.

2.3 Qualified Person Property Inspection

The time for property inspection coincided with the Australian Government closing its international borders due to the COVID-19 pandemic, so that the travelling from Australia to the site in Ukraine was not possible. In order to resolve the situation and to meet the CIM requirements with regards to the property inspection, CSA Global requested a Qualified Person from GSC to conduct the site visit, laboratory inspection and carry out the QAQC analysis.

The GSC Qualified Person, Nataliia Bariatska, undertook a site visit to the Klyntsi Gold Project between 28 April and 27 May 2020, spending three days at the deposit site, in the exploration camp (28 April 2020 and 11 May 2020), in the core storage in the city of Cherkasy (27 May 2020) and several days in Lyra's office in Kiev. The Qualified Person inspected core logging and storage facilities, QAQC protocols and procedures, and the local geology of the deposit.

The author considers the 2020 site visit to be current under Section 6.2 of NI 43-101.

2.4 Sources of Information

This report partly relies on information provided by Lyra and others, including documents, data and reports compiled by Lyra management, consultants, contractors and their own technical staff. CSA Global was supplied the results of previous work completed by Lyra during the course of exploration and evaluation of the Project which included geological reports, the results of both historical and recent drilling as well as sampling results for underground adits in a digital database, including fire assay for gold, geophysical surveys (surface and downhole), and the results of previous MREs which were completed in line with the requirements of the State Commission of Ukraine for Mineral Reserves (not CIM compliant).

The primary dataset used to inform the Mineral Resource is the digital drillhole database provided by Lyra at commencement of CSA Global's engagement. The author has reviewed the data, reviewed relevant QAQC checks, and is satisfied the data is adequate for estimation of Mineral Resources.

The author has taken reasonable steps to verify the information provided where possible.

3 Reliance on Other Experts

With respect to Section 4.2 of this Report, the author has relied on ownership information provided by Lyra. The information was provided to CSA Global via email and other electronic means. To the extent possible, the author and CSA Global have reviewed the reliability of the data but have not researched property title or mineral rights for the Project and express no opinion as to the ownership status of the Property.

4 Property Description and Location

4.1 Location of Property

Lyra's exploration operations are located in Central part of Ukraine (Figure 4.1). The country is bordered by Russia to the east, Moldova and Romania to the south, Belarus to the north, and Slovakia, Poland and Hungary to the west.

Figure 4.1: Location map of the Klyntsi deposit
Source: ukraine.auto-maps.com

The Klyntsi Project is located in the Kirovohrad region about 15 km north of the city of Kropyvnytskyi, which is the capital of the region with a population of approximately 225,000, and in close proximity to the Klyntsi, Kalynivka and Hubivka villages (Figure 4.2).

Figure 4.2: Location of the Kyintsi deposit (north view)
Source: Lyra

4.2 Mineral Tenure

Mining Permits are granted within the provisions of a Mining Agreement that is negotiated between the State Service of Geology and Mineral Resources of Ukraine and the applicant. Such an agreement covers a period of up to 15 years and can be extended in the future. In addition to the mining, the Mining Permit also allows geological exploration within the Permit Area.

Lyra obtained the Mining Permit No. 6371 dated 20 September 2019 at an open auction and is valid until 20 September 2034. Under NI 43-101 guidelines, the Klyntsi Mining Permit has a total area of 1.013 km^2 (Table 4.1, Figure 4.3,).

The area and geographic coordinates for the Klyntsi Mining Permit are summarised in Table 4.1.

Table 4.1: Klyntsi Mining Permit

Klyntsi Permit					
Tenement type: Mining Company: Lyra Mine Minerals LLC Date granted: 20/09/2019 Valid: 15 years to 20/09/2034 Area: 1.013 km^2					
Central site			**Hubivka site**		
Point	**Longitude east**	**Latitude north**	**Point**	**Longitude east**	**Latitude north**
A	32°23’05’’	48°24’33’’	A	32°22’42’’	48°21’53’’
B	32°23’17’’	48°24’33’’	B	32°22’49’’	48°21’53’’
C	32°23’15’’	48°23’30’’	C	32°22’38’’	48°21’09’’
D	32°23’07’’	48°22’57’’	D	32°22’44’’	48°20’58’’
E	32°22’59’’	48°22’58’’	E	32°22’44’’	48°20’42’’
F	32°23’00’’	48°23’27’’	F	32°22’41’’	48°20’42’’
G	32°23’03’’	48°23’27’’	G	32°22’32’’	48°21’07’’
			H	32°22’35’’	48°21’25’’

The location of the permit area is shown in the Figure 4.3.

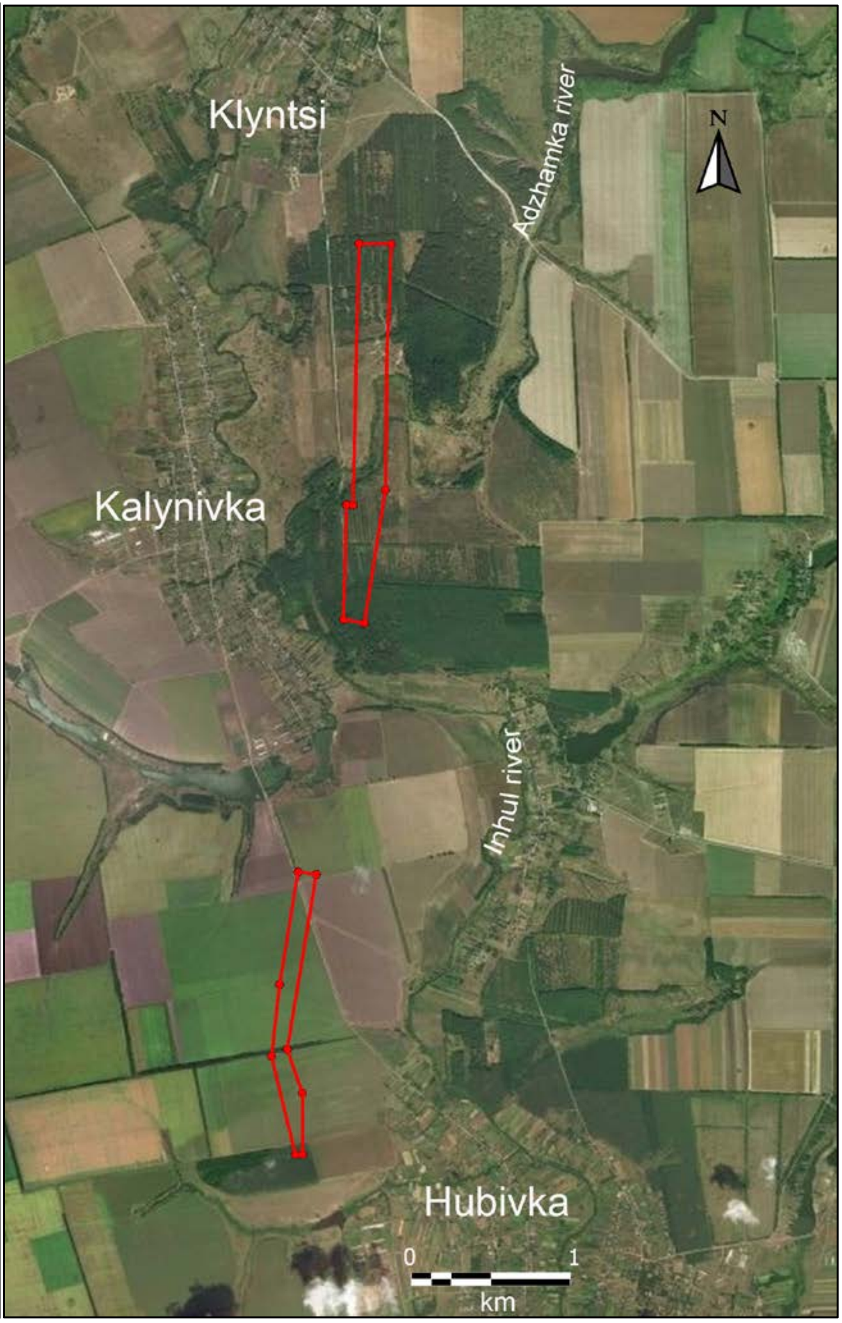


Figure 4.3: Klyntsi Permit area location
Source: Satellite Bing Map (2020)

The Project is not subject to any royalties or claw back provisions. The current tenure provisions are adequate to conduct exploration and evaluation activities required to evaluate the Project. At the time of writing, the author is not aware of any environmental liabilities on the Project or any other factors that would affect access or the rights to work on the Project.

4.3 Other Significant Factors and Risks

Environmental, permitting, legal, title, taxation, socio-economic, marketing, and political or other relevant issues could potentially materially affect access, title or the right or ability to perform work on the Property. However, as of the Effective Date of this Report, the author and Qualified Person is unaware of any such potential issues affecting the Property.

5 Accessibility, Climate, Local Resources, Infrastructure and Physiography

5.1 Accessibility

The Project can be accessed by concrete road from Klyntsi village (Figure 5.1, Figure 5.2), which connects 10 km to the north with the Kropyvnytskyi ring road.

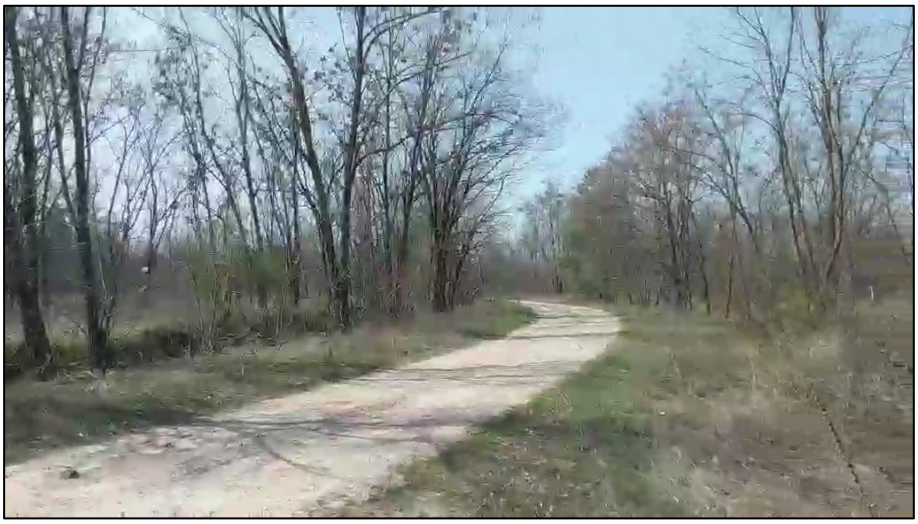


Figure 5.1: Concrete road from the Klyntsi village to the deposit
Source: Lyra

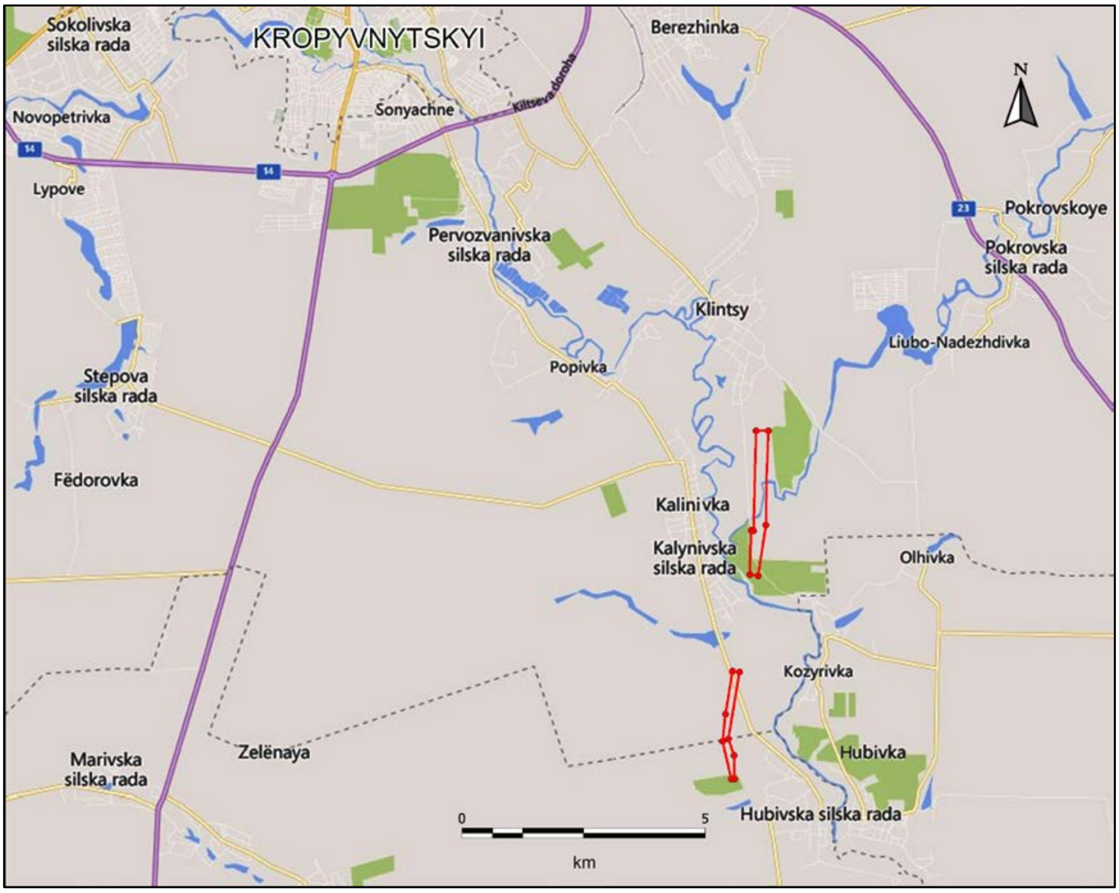


Figure 5.2: Infrastructure map of the Klyntsi Gold Project

Figure 5.3: Klyntsi exploration camp
Source: Lyra (29 April 2020)

Boryspil International Airport is located 300 km to the north. Kropyvnytskyi also has an airport with a much shorter runway; however, nearly all flights operating from this airport are charters.

The whole Project area is easily traversed by all-terrain vehicles or four-wheel drive cars.

5.2 Climate

The region is characterised by a moderate continental climate with four main seasons: two main ones – cold (winter from December to February) and warm (summer from June to August), and two intermediate ones – spring (from March to May) and autumn (from September to November).

According to the data from the Kirovohrad meteorological station, which has operated for over 100 years, the average annual temperature is about + 7.5°C. The maximum temperatures are in June-July and reach +30°C, and the minimum daily temperatures are in December-February and can reach -10°C (Figure 5.4).

Mining operations in the region operate year-round and have infrastructure designed to cope with the climate variabilities. The Qualified Person is of the opinion that the climate of the Project area presents no risk to the development of the Project.

Most of the precipitation falls during the warm season (Figure 5.4). The snow cover, on average 5–7 cm, appears in the second half of December and disappears in March.

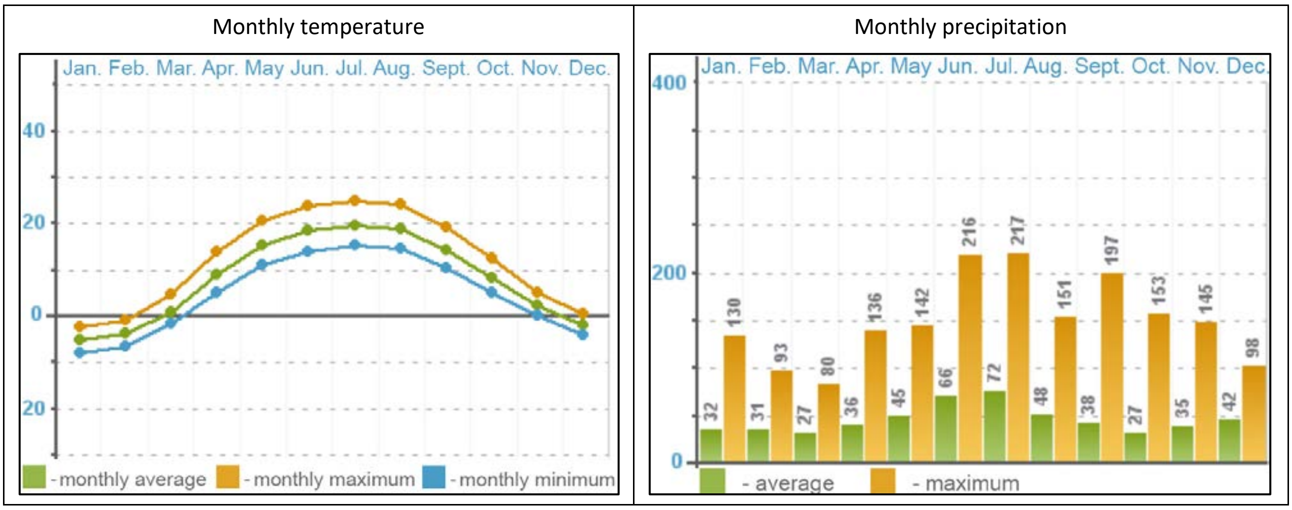


Figure 5.4: Monthly temperature and precipitation for Kirovohrad region

Source: https://meteo.gov.ua/en/33345/climate/climate_stations/99/16/

5.3 Physiography

The Klyntsi Gold Project is located in the steppe part of Ukraine and consists of two sites: Central and Hubivka (Figure 4.3).

Geomorphologically, the Central site is represented by the second above-floodplain terrace of the Adzhamka River (the Inhul River basin – the left tributary of the Southern Bug). The terrace slopes slightly towards the valley of the Adzhamka River, the relief is slightly hilly, complicated by hills of glacial origin (Figure 5.5). The maximum absolute elevations of the surface are ~130 m above sea level in the north of the site, and the minimum is ~90 m in the floodplain of the Adzhamka River, located in the central part of the site. The relief decreases from north to south.

Figure 5.5: Typical terrain at Klyntsi Project area (west view)

Source: Lyra

The Hubivka site is located on a slightly hilly plain, complicated by glacial hills. The maximum absolute elevations of the surface are 140–150 m, confined to the watershed of rivers and gullies, and a minimum of 90–100 m in the valleys of the Inhul River and its tributaries. The relief decreases from west to east.

5.4 Local Resources and Infrastructure

The Project is located in the Kirovograd region of Ukraine with an average population density of 43 people per square kilometre. Agriculture is the main industry in the region. Large industrial enterprises, including mining, are concentrated in the Kropyvnytskyi city.

The Inhul uranium mine with the relevant infrastructure is located 8 km northwest of the deposit. A railway branch was built from the railway to the Inhul mine. In order to connect the Klyntsi deposit with the mine branch, it will be necessary to build 6–8 km of a railway track or a concrete road.

A high-voltage powerline (35 kV) passes through the Central site of the deposit along exploration profile 41. A 10 kV powerline runs through the Hubivka site, which connects Kalynivka and Hubivka villages.

A natural gas supply distribution station is located in Kalynivka village, 5 km to the northwest, from which a connection can be made. The 7.5 MPa high-pressure gas pipeline connecting Kropyvnytskyi and Bogorodchani passes through the Central site.

The Klyntsi gold deposit is located close to all the infrastructure required to build and operate a mine, with highways, roads and railway access, as well as powerlines, natural gas and water sources.

6 History

6.1 Introduction

The following section is based on information sourced from the following reports:

- Babynin O.K. et al. (1994)
- Marchenko A.H. et al. (2000)
- Bratchuk O.M. et al. (2004)
- Falkovych O.L. et al. (2018).

The Klyntsi deposit has a long history of study, with the main stages of exploration and the corresponding scope of work shown in Table 6.1.

*Table 6.1: Scope of works completed at the Klyntsi deposit**

Type of activity (period)	Core drilling		Underground workings	
	Drillholes	Metres	Vertical (m)	Horizontal (m)
Central site				
Geological depth mapping (1985 to 1989)	14	4,448	-	-
Prospecting exploration (1988 to 1994)	34	8,558	45	53
Mining and drilling exploration (1991 to 1996)	240	69,547	-	1,326
Advanced exploration (2001 to 2004)	18	5,641	-	-
Exploration (2007 to 2008)	4	1,661	-	-
Total	**310**	**89,855**	**45**	**1,378**
Hubivka site				
Geological depth mapping (1985 to 1989)	4	1,567	-	-
Prospecting exploration (1988 to 1994)	15	5,221	-	-
Exploration (1997 to 2000)	39	11,979	-	-
Total	**58**	**18,767**	**-**	**-**
GRAND TOTAL	**368**	**108,622**	**45**	**1,378**

**The table shows the number of drillholes and underground workings, the data for which were used for resource estimation.*

6.2 Geological Depth Mapping with Prospecting and Revision Activities for Gold (1985 to 1989)

The Klyntsi gold deposit was discovered during prospecting and revision works within the central and north-western parts of the Ukrainian shield, carried out by the Cherkasy Geological Exploration Expedition. During these activities, in the most promising areas, the drilling uncovered mineralisation with a gold grade of 1 g/t. Litho-chemical gold sampling was carried out, with resources of category P_2 (Russian GKZ classification system) subsequently estimated.

Following this, gold mineralisation was traced in eight profiles of inclined core drillholes up to 500 m deep at 1.8 km along the strike of the mineralised zone.

6.3 Prospecting Exploration (1988 to 1994)

Prospecting exploration for gold mineralisation were carried out in 1988–1994 by the Cherkasy Geological Exploration Expedition (Babynin, 1994). At the Klyntsi deposit, mineralised zone no. 1 was identified and traced along strike for 2.8 km, and features of gold mineralisation localisation identified. It was revealed that mineralised zone no. 2 has a complex structure, and subsequent work clarified the boundaries of the mineralisation distribution, and the continuity of the mineralised zones was demonstrated.

In the southern part of mineralised zone no. 2, the Hubivka site was identified, traced along the strike to 1,250 m. The geological structure and character of mineralisation of the Hubivka site is similar to the Central site. As a result of core drilling, with 7,000 m of drilling, preliminary positive results were obtained, and a mineralised zone with a gold grade of more than 1 g/t was discovered.

6.4 Mining and Drilling Exploration (1991 to 1996)

From 1991 to 1994, the state joint-stock company "Ukrainian Polymetals" carried out exploration works within mineralised zone no. 1 (Marchenko, 2000). The mineralised zone was traced by deep drilling holes for four -x horizons (-10, -90, -250 and -410 m) on a 80 m x 80 m grid to a depth of 200 m, and on a 160 m x 160 m grid to a depth of 560 m. In the central part of the mineralised zone, pit no. 1 was explored on along level +70 m (depth 44.5 m) within a system of underground workings.

Geological exploration work was accompanied by the necessary combination of sampling, laboratory, topographic, hydrogeological, engineering works, surface and drillhole geophysical surveys. A total of 11 technological samples were taken.

Mining and drilling exploration were carried out within the most promising block between profiles 13 and 30, with prospecting and appraisal work carried out throughout the remainder of the deposit.

The C_2 and P_1 resources of the deposit were estimated, and the feasibility for further exploration with accompanying gold mining at the Klyntsi deposit was substantiated in a technical and economic report (Marchenko, 2000).

6.5 Advanced Exploration (2001 to 2004)

In 2001–2004, Ukrainian Polymetals carried out additional exploration for resources of category C_2, which was extended by 200 m to the north along the strike of the mineralized zone (Bratchuk, 2004). The exploration grid has been reduced to 40 m x 40 m by drilling 18 holes. Thirty-nine holes were drilled on the southern flank of the deposit.

Taking into account the new data, the resources of the C_2 and P_1 categories (USSR GKZ classification system) were re-evaluated. It should be noted that when resources were converted from C_2 to P_1.

6.6 Preliminary Geological and Economic Assessment of the Klyntsi Gold Project

In 2018, Lyra performed a preliminary geological and economic assessment of the Klyntsi Gold Project by analysis of existing data. During these works, resources (reserves) of C_2 and P_1 categories were estimated for the Central and Hubivka sites and approved in the State Commission of Ukraine on Mineral Resources (Protocol No. 4787 dated 22 May 2019).

6.7 Historical Mineral Resource Estimates

CSA Global is not aware of any historical MREs of the Klyntsi Gold Project that were completed in line with CIM or any other international standard.

The following grade-tonnage estimates are considered historical estimates which were completed in line with the State Commission of Ukraine on Mineral Resources standards, which is not compliant with CIM. A Qualified Person has not carried out sufficient work to classify the historical estimates as current Mineral Resources, and Lyra is not treating the historical estimate as current Mineral Resources.

These historical estimates of grades and tonnes described below was performed by Lyra in 2018 (Falkovych, 2018) and is consistent with the Mineral Resources of the Klyntsi Gold Project, which are indicated in all documents. The estimate was carried out using a cut-off grade 1 g/t based on data from exploration drillholes and underground workings that existed at the time of the estimate.

Table 6.2: Grade-tonnage statement, Klyntsi Gold Project, Ukraine – 2019*

Category		Tonnage (kt)	Au (g/t)	Au (kg)
USSR	**UNFC 2009 (Ukraine)**			
Central Site				
C_2	122	958.4	7.30	6,995.6
C_2 off-balance	222	32.8	2.71	88.8
P_1	333	3,705.4	3.91	14,499.1
P_2	334	1,543.5	5.49	8,467.7
Total		**6,240.1**	**4.82**	**30,051.2**
Hubivka Site				
P_1	333	831.4	6.33	5,262.6
P_2	334	1,977.9	6.12	12,105.3
Total		2,809.3	6.18	17,367.9
GRAND TOTAL		**9,049.4**	**5.24**	**47,419.1**

** All figures rounded to reflect the relative accuracy of the estimates. It should be noted that the classification of reserves and resources adopted in Ukraine does not correspond to the CIM classification and cannot be correctly compared therewith. Tentatively, Category C_2 can be compared with Inferred Mineral Resources. CSA Global did not verify the reported figures and does not accept any responsibility for them.*

6.8 Production from the Property

At the initial stage of mining and drilling exploration (1991–1996), ambiguous results were obtained comparing data from core sampling from drillholes and underground mine workings.

In this regard, in 1997–1998 at the Klyntsi deposit, bulk sampling and technological research were performed with accompanying gold mining. The main goal of these works was to increase the understanding of the mineralisation significance.

A total of 428.66 tonnes of rock were processed with an average grade of 2.13 g/t, and a recovery of 68.35% was achieved. As a result of the work, 621 g of rough gold were obtained. The amount of concentrate was 1,310.15 kg with an average gold grade of 57 g/t (Bratchuk, 2001).

7 Geological Setting and Mineralisation

7.1 Introduction

This section is prepared based on the following reports and maps:

- Babynin O.K. et al. (1994)
- Marchenko A.H. et al. (2000)
- Bratchuk O.M. et al. (2004)
- Nechaienko O.M. et al. (2007)
- Klochkov V.M. et al. (2015)
- Kruhlov S.S. et al. (2004).

7.2 Regional Geology

Klyntsi deposit is located in the central part of the Kirovohrad (Inhul) mega-block of the Ukrainian Shield. This territory has a clear pronounced two-level structure: the lower structural level is represented by complexly dislocated formations of the Lower Proterozoic age, while the upper level is represented by horizontally lying Mesozoic and Cenozoic units (Figure 7.1).

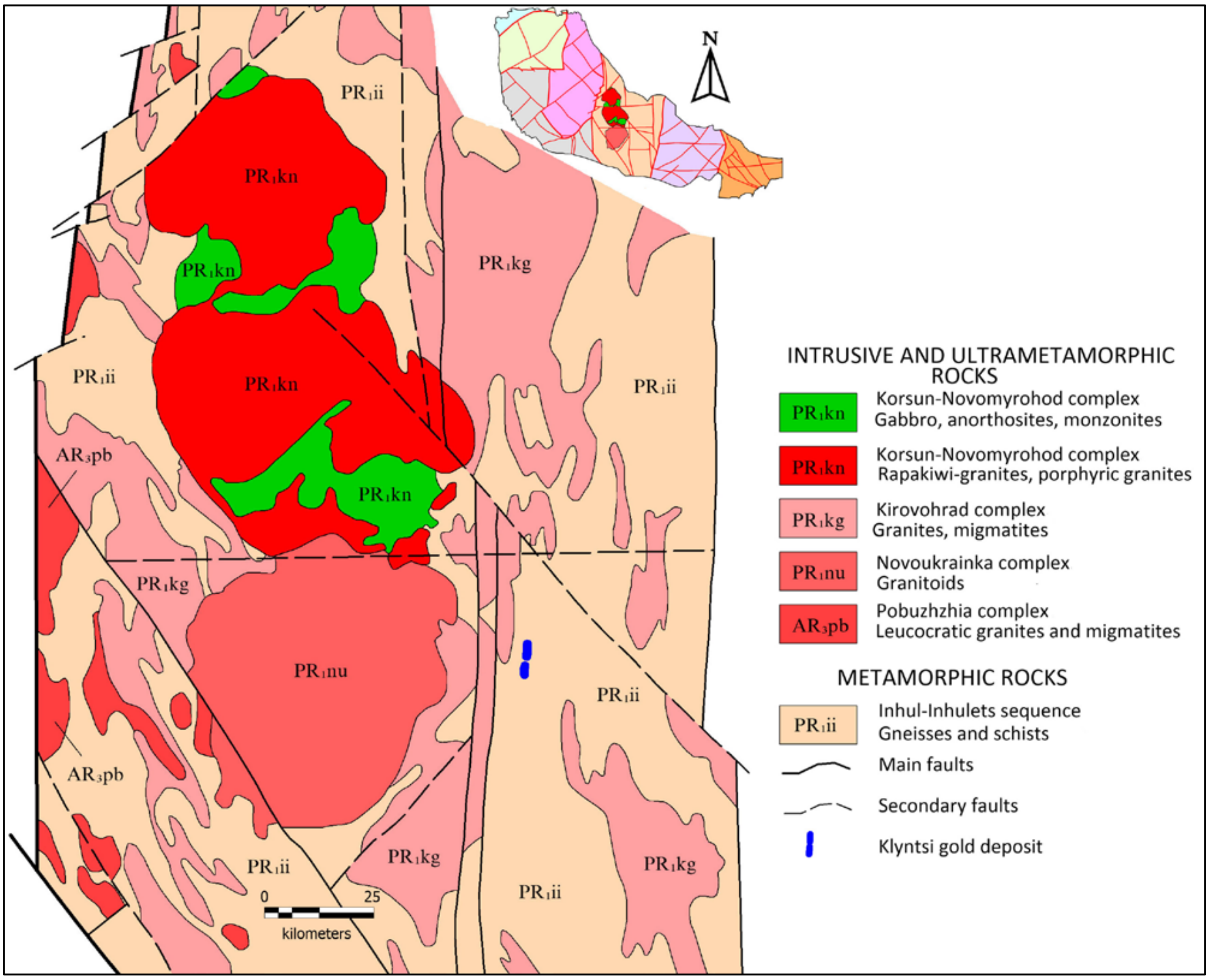


Figure 7.1: Geological map of the Kirovohrad (Inhul) mega-block of the Ukrainian Shield
Source: Bsriatska N. based on (Kruhlov S.S. et al., 2004; Klochkov V.M. et al., 2015; Nechaienko O.M. et al., 2007)

Precambrian metamorphic rocks are represented mainly by gneisses of the Checheliivka Suite of the Inhul-Inhulets Sequence. The Checheliivka Suite consists of biotite, garnet-biotite, cordierite-biotite, and diopside gneisses, sometimes with graphite.

Ultrametamorphic, intrusive-magmatic and metasomatic Precambrian formations in the deposit are mainly represented by rocks of the Novoukrainka and Kirovohrad complexes. The Novoukrainsky Complex is predominantly composed of trachytoid granites and migmatites. The Kirovograd Complex is represented by medium-grained amphibole plagio-migmatites, biotite granites and migmatites, porphyroblastic granites and migmatites.

Among the gneisses, veins of aplite-pegmatoid granites of the Kirovograd Complex with very uneven structural and textural features with a thickness of 10–15 cm to 20–25 m are very common.

Metasomatic formations (formation of alkaline metasomatites) – albitites and microcline rocks are developed within the Kirovograd fault zone, at the contact of biotite gneisses of the Checheliivka Suite with trachytoid granites of the Novoukrainsky massif.

The dike complex is represented by dikes of diabases, diabase porphyrites, spatially confined to the north-western fault zones, have a crosscutting position with respect to the general strike of the rocks.

Weathered profiles of crystalline rocks of the Meso-Cenozoic age is developed everywhere, with the exception of the places where the basement rocks are exposed at the surface. Its thickness ranges from 0 to 55 m.

The weathering profile in the upper part is represented by a kaolinite zone, which changes to hydromica-kaolinite (in biotite gneisses) or quartz-kaolinite (in granites) with depth, then into a zone of leached rocks.

Sediments of Cenozoic and Holocene ages are widely developed within the region, with the exception of areas where rocks of the crystalline base or their weathering crust are outcropped. They are represented by alluvial lacustrine, oxbow and lagoon sandy-argillaceous sediments, sea sands, aeolian-deluvial loams, alluvial sands, gravelly silts, loams, sandy loams and pebbles.

7.3 Structural Setting

Formations of the lower structural level are complexly dislocated rocks of the Lower Proterozoic age, which have a sub-meridional strike. The dip angles are generally steep (75–85°). The covering formations of the upper level lie horizontally or have slight dips up to 10°.

The Klyntsi deposit is located on the eastern flank of the Novoukrainka and Bobrynets massifs in the zone of influence of Kirovograd and Hrushkivka-Kalynivka deep sub-meridional faults.

In these linear sub-meridional zones, due to tectonic-magmatic activation, the processes of metasomatism and mineralisation genesis are realized. The rocks have undergone cataclasis, and in some structures, mylonitisation and metasomatism, which is favourable for mineralisation formation.

7.4 Property Geology

Mineralisation within the deposit is localised in the gneisses of the Checheliivka Suite of the Inhul-Inhulets Sequence. Biotite, garnet-biotite gneisses predominate with graphite and cordierite, with thin interlayers and lenses of amphibole- and diopside-containing varieties. The general strike of the gneisses is sub-meridional with a dip to the west at an angle of 80–85°. Among the gneisses, veins and veinlets of aplite-pegmatoid granites with a thickness ranging from several millimetres to 20–30 cm, oriented according to the gneissic fabric, are often noted.

Mineralisation is enclosed in a mineralised zone with a thickness of 20–120 m, with an average thickness of 42 m, and a strike length of 3.0 km (Klyntsi site) and 2.3 km (Hubivka site) (Figure 7.2). The location of the zone is established by gold halos, anomalous values of arsenic, bismuth, part tungsten and copper, and is differentiated in contrasting geophysical fields. In general, the mineralised zone is characterised by intense silicification, sulphidisation (3–5%), amphibolisation, and tourmalisation. Variously oriented fracturing and partial crushing are noted. The zone was interpreted down dip to a depth of 400–500 m from the surface without visible pinching out.

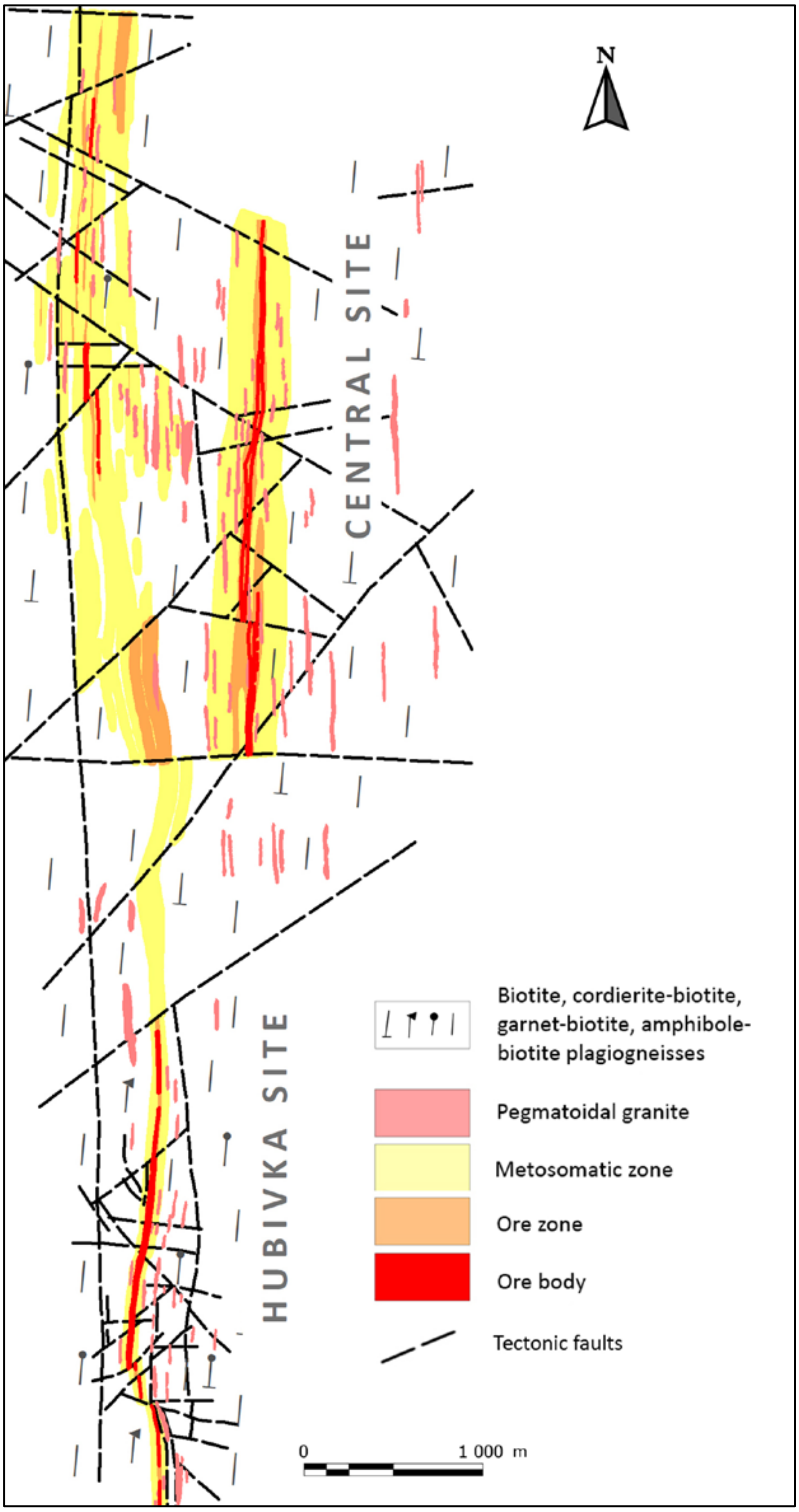


Figure 7.2: Geological map of the Klyntsi deposit. Geological zones, structural elements shown
Source: Bratchuk O.M. et al. (2004)

Higher-grade mineralised bodies are localised within the broader mineralised zone. The geological boundaries of higher-grade mineralisation are observed where intense cleavage, silicification, veinlets and veins of multi-coloured quartz with oligoclase of varying thickness (from 0.01 m to 1.0 m) occur. If within the broader mineralised zone, the intensity of vein material is from 3% to 5%, then in the higher-grade mineralised bodies, vein intensity is at least 15%.

Mineralised bodies have a complex structure. Their thickness is variable along strike and dip (Figure 7.3). Along the strike, the mineralised bodies are characterised by an irregularity in the mineral composition; low-sulphide mineralisation is replaced by poor-sulphide mineralisation.

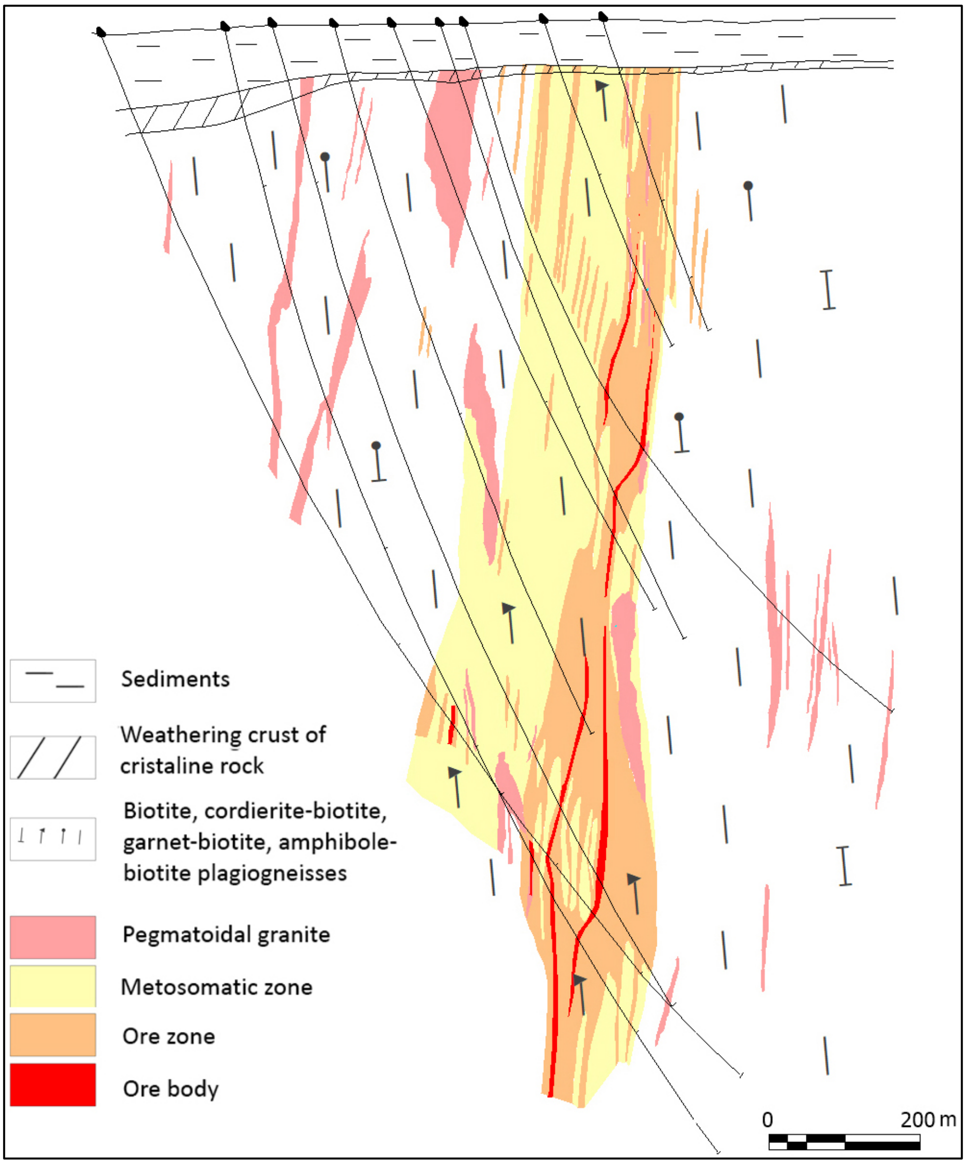


Figure 7.3: Typical east-west section of the Klyntsi deposit
Source: Bratchuk O.M. et al. (2004)

The mineralised bodies are characterised by biotite porphyroblasts and amphibole, fine dissemination, veinlets and cuts of arsenopyrite, arsenopyrite-loellingite aggregate, pyrrhotite, and pyrite. Often the selvages of the body are limited by granitoids or tectonic fractures.

Contacts of mineralised bodies can be interpreted by an increase in the amount of sulphide-quartz material, the appearance of a series of feldspar-quartz veinlets with amphibolisation and biotitisation. Tectonic contacts limit the zones of veining and sulphidisation, and contain slip planes, less often clay gouge.

7.5 Structural Geology of the Property

The Klyntsi gold mineralised field is located on the eastern side of the Kirovograd fault zone and is confined to one of the branches of the Kirovograd deep fault. The mineralised zones, as well as the structures of the host rocks, are subject to the general tectonic plan of the Kirovograd fault zone and are also oriented in the meridional direction.

The mineralised field includes the West Klyntsi, Klyntsi and Hubivka mineralised zones. The field is elongated in the sub-meridional direction, has a length of about 10 km, a width of about 1.5 km. The internal structure is echelon-like, the distance between the tectonic structures is 0.8–1.2 km. The main mineralisation-controlling structures are the faults of the sub-meridional strike, which were opened at the moment of mineralisation formation.

Mineralisation deposition is associated with metasomatic alterations of metamorphic rocks, which accompany disjunctive dislocation.

A characteristic feature of mineralisation is multiple tectonic zones with the filling of fractures with vein material. In rich mineralised bodies, the vein material is repeatedly crushed and filled with quartz with the formation of gneiss-quartz breccia.

7.6 Gold Mineralisation

7.6.1 Regional

The total gold resources of Ukraine are distributed within three gold mineralisation provinces: Carpathians, Ukrainian Shield, Donbass, where six main mineralisation districts are distinguished. Most of the total gold resources (65–85%) come from the deposits of the Ukrainian Shield. There are three mineralisation districts, including Kirovograd, within which the Klyntsi deposit is located.

Metallogenically, the Klyntsi deposit belongs to the Klyntsi-Konevo metallogenic zone, which has a strike length of about 80 km. It is located in the rocks of the eastern flank of the Novoukrainka and Bobrynets massifs in the zone of influence of two deep sub-meridional faults – the Kirovograd fault and the Hrushkivka-Kalynivka fault.

The metallogenic zone has gold mineralisation with characteristic metasomatic alterations and associated elements of the mineralisation process – arsenic, bismuth and anomalies of silver, copper, molybdenum, tungsten.

Mineralisation is represented by gold associated with quartz, sometimes in a low-sulphide-quartz formation. The sulphide content is 5–6%. They are represented mainly by arsenopyrite, loellingite, pyrrhotite, pyrite, chalcopyrite. Mineralised bodies are associated with quartz veins and zones of vein-disseminated mineralisation; often they are not expressed visually but are determined only by an increased degree of silicification and an increase in gold grade. Gold is free, often visible, contained mainly in quartz, less often in sulphides, and is high carat gold (Hurskyi et al., 2005).

7.6.2 Klyntsi Project

The material composition of gold mineralization of the deposit was studied in detail during the mining and drilling exploration (1991 to 1996) and described in the Marchenko et al. (2000) report.

The mineralisation of the Klyntsi deposit is vein-disseminated, and contains arsenopyrite, loellingite, several types of pyrrhotite, pyrite, and rarely chalcopyrite. The mineralised bodies contain the maximum amount of sulphides (up to 3%), which are localised mainly in the form of lenses with a size of 0.1–0.3 cm x 0.5 cm x 3.0 cm, thin veins.

The distribution of gold in mineralised bodies is very uneven, with a variation in the coefficient of the grade of 125–140%, to extremely uneven (variation coefficient of the grade is up to 240%). The range of grade varies from 0.5 g/t to over 400 g/t. Analysis of the distribution of gold within the detailed area showed sites with rich, medium and low-grade mineralisation (Marchenko et al., 2000).

Gold is predominantly native (free), marked in the form of particles from 0.05–0.8 mm to nuggets (5 mm x 3 mm x 2 mm). Gold grains of ≥0.15 mm in size account for up to 80% of all gold. The balance of the gold distribution by minerals: free gold (with a size of 0.3 mm) – 52–55%; in intergrowths with feldspars, sulphides, arsenopyrite and quartz – 35–38%, refractory gold – up to 10%.

Three main paragenesis of ore minerals have been identified.

- Loellingite-arsenopyrite paragenesis is widely and evenly distributed throughout the mineralised zones. It is characterised by fine (about 0.01 mm) gold with low grades (0.01–0.5 g/t, rarely up to 1.0 g/t) and a good correlation between gold and arsenic.
- Arsenopyrite-pyrrhotite paragenesis is distinguished in the same places as loellingite-arsenopyrite, and genetically related to it, but has a variable intensity. The size of the gold grains is 0.1–0.5 mm. The gold content ranges from 0.3 g/t to 5 g/t. The correlation between gold and arsenic is interrupted, and with a sharp increase in the gold content, the arsenic content increases slightly.
- Pyrite-chalcopyrite paragenesis occurs throughout the mineralised zone but appears in different ways. With its intensive development, the decomposition of dark-coloured minerals is recorded. In such cases, the gold grade always exceeds 5 g/t and sometimes reaches >100 g/t. Coarse gold (more than 1 mm) is often clearly visible. A characteristic indicator of this relatively low temperature paragenesis is the association of gold with native bismuth.

8 Deposit Type

The Klyntsi gold deposit, as well as other deposits of the mineralised district, belongs to the deposits of the gold-quartz-sulphide formation of ancient shields with a predominantly poor, or low-sulphide type of mineralisation.

Within the region, gold mineralisation is usually confined to the more mixed composition host rocks (gneisses) with an increased amount of amphibole and pyroxene. Mineralisation is associated with sub-meridional tectonic zones, in particular with the structures of the Kirovograd long-lived deep fault zone.

The zones are distinguished by sulphidisation halos with extensive development of quartz, quartz-feldspar veins and veinlets with a characteristic set of secondary alterations, such as silicification, granitisation, amphibolisation, K-feldsparisation, graphitisation, chloritisation, and skarnification.

In addition to gold, anomalous values of arsenic, bismuth, and occasionally tungsten are observed here. The highest contents of arsenic are usually found in gneisses, bismuth is found in aplite-pegmatoid granites, sometimes in gneisses, and tungsten in thin layers of diopside gneisses. The maximum values of gold are noted in samples in which the values of arsenic and bismuth are simultaneously increased.

Mineralised bodies of various thicknesses are delineated by gold grades. The distribution of gold in mineralised bodies is uneven.

In some characteristic features, the Klyntsi deposit is similar to the Homestake, Hemlo (North America), Kollar (India) and some Baltic Shield projects.

9 Exploration

Lyra acquired the Klyntsi mining permit in 2019.

9.1 Data Compilation and Old Drillholes and Underground Workings Location

In 2019, Lyra started data compilation to physically locate historical drillholes and adits, mainly from the previous operations (Figure 9.1, Table 9.1, Figure 9.2, Figure 9.3).

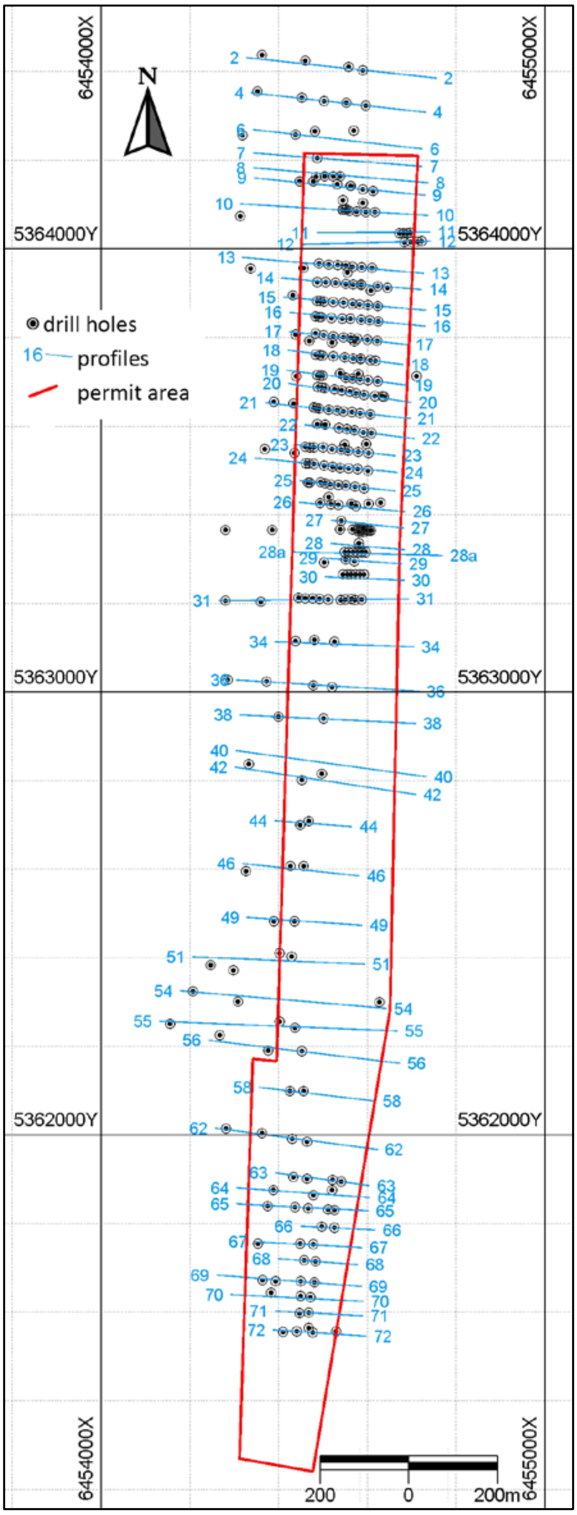


Figure 9.1 Klyntsi drillholes location map (Central site)

Table 9.1: Significant drillholes and underground workings

Site	Core drilling		Underground workings	
	Drillholes	Metres	Vertical (m)	Horizontal (m)
Central	310	89,855	45	1,378
Hubivka	58	18,767		
Total	**368**	**108,622**	**45**	**1,378**

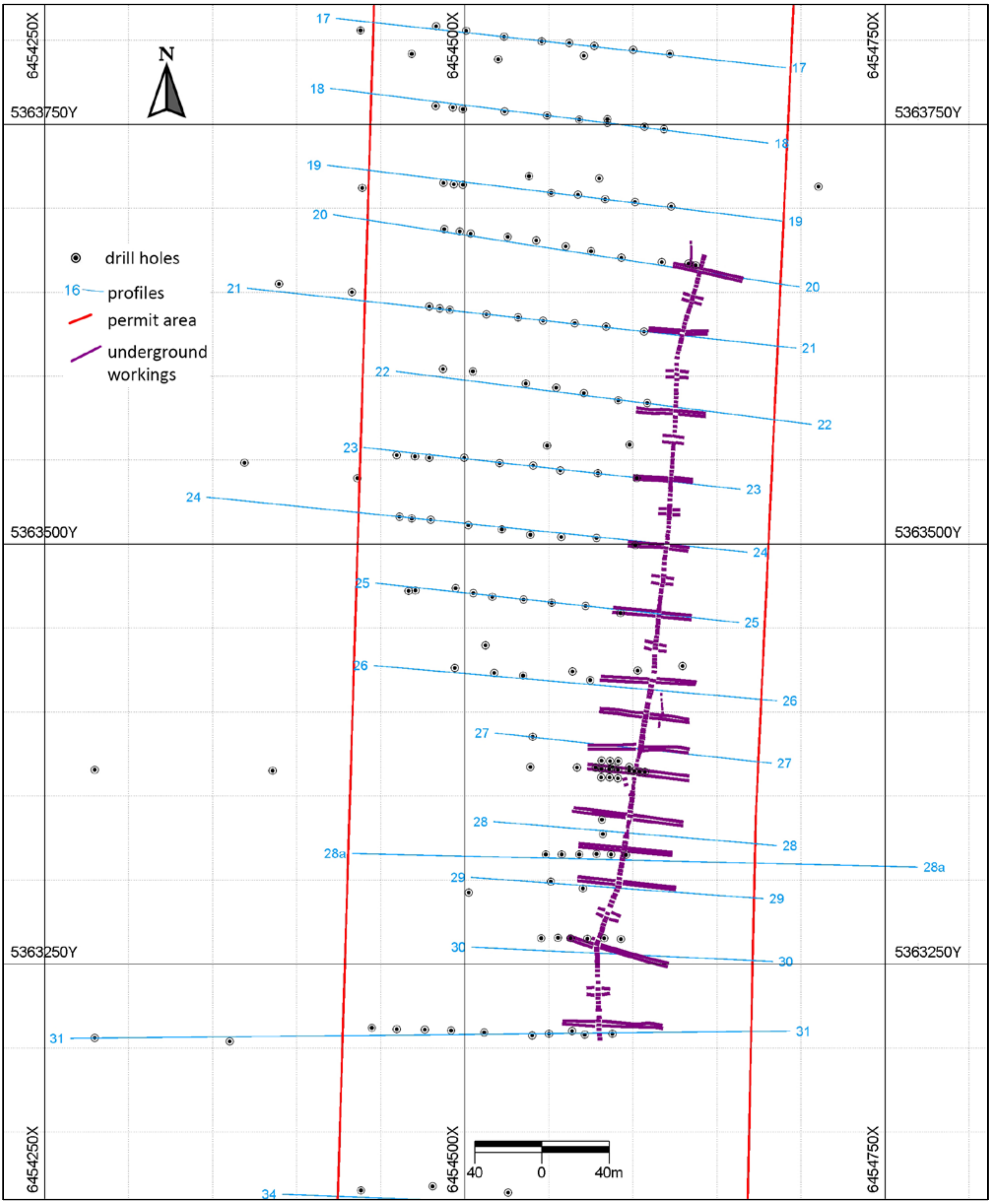


Figure 9.2: Klyntsi underground workings location map

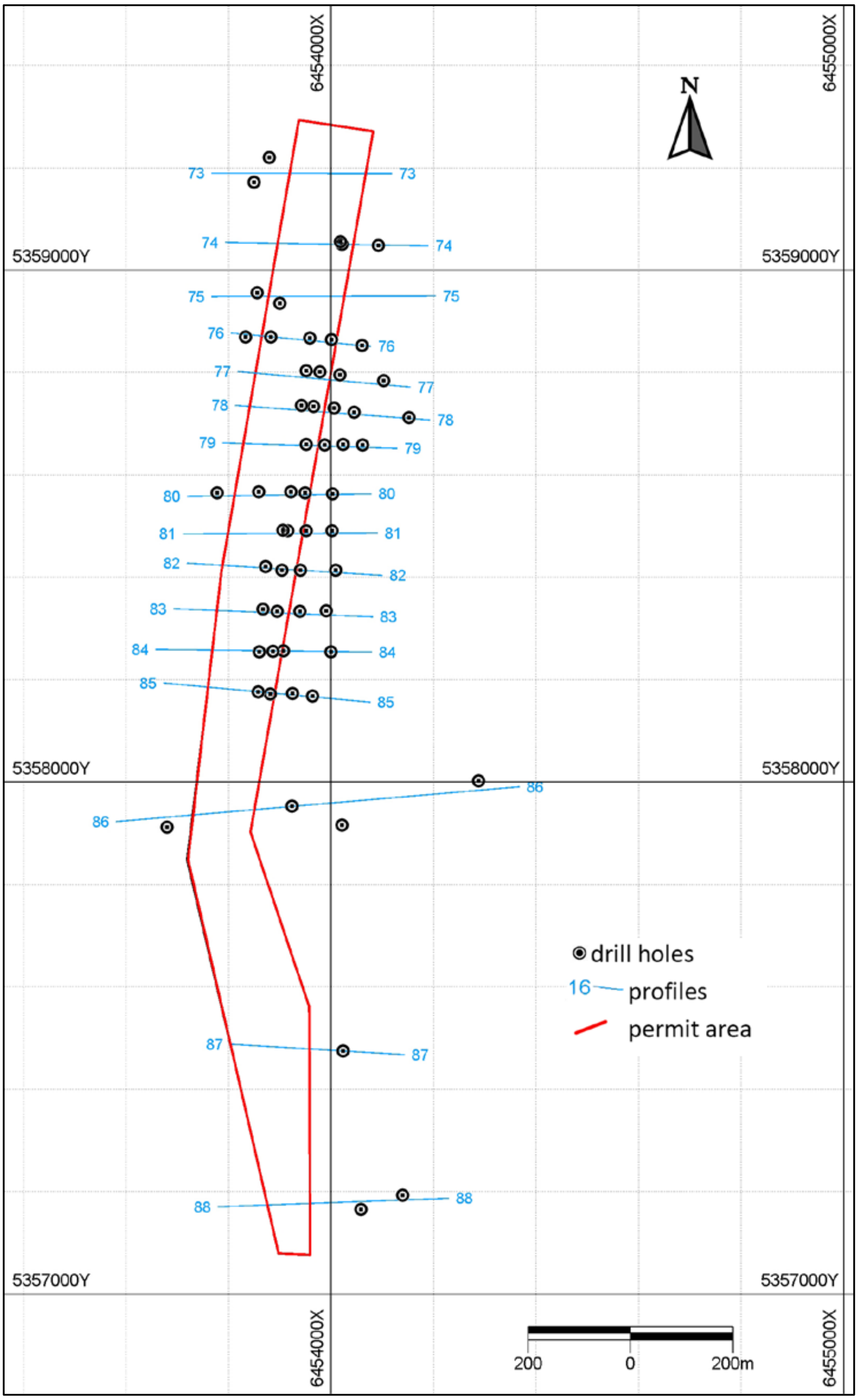


Figure 9.3: Klyntsi drillholes location map (Hubivka site)

All information of historical drillholes and underground workings, including sampling and geological logging, was added to the database. It has been checked for errors in Micromine software and has been completed with historical graphic materials (maps, level plans, sections etc.).

Lyra's exploration activities included the drilling of five exploration holes to confirm mineralisation parameters. The conditions, characteristics and main results of drilling are described in detail in the Section 10.

10 Drilling

10.1 Geological Exploratory Drilling and Underground Workings

Lyra commenced drilling in April 2020. Drillhole data are given in Table 10.1.

Table 10.1: Lyra's drillholes data (2020 drilling)

Hole ID	East	North	RL	Depth
1k	6454575.5	5363920.4	120.2	126
2k	6454573.8	5363920.5	120.2	189
3k	6454433.0	5363209.9	104.6	375
4k	6454434.1	5363209.7	104.6	348
5k	6454595.4	5363920.0	120.6	143.7

Selected mineralised drill intervals from these new drillholes are presented in Table 10.2.

Table 10.2: Select mineralised drill intervals

Hole ID	From (m)	To (m)	Length (m)	Au grade (g/t)
1k	107.8	113.3	5.5	3.52
Including	107.8	111.0	3.2	5.09
2k	156.0	156.8	0.8	2.55
3k	309.0	309.8	0.8	3.46
3k	352.4	354.4	2.0	1.31
4k	317.0	323.0	6.0	1.10
Including	318.0	319.0	1.0	1.62
Including	321.0	323.0	2.0	1.44
5k	97.0	98.1	1.1	1.29
5k	110.2	117.6	7.4	1.46
Including	113.8	115.6	1.8	4.22
5k	122.6	124.7	2.1	4.05
Including	122.6	123.6	1	6.22
5k	133.8	139.7	5.9	4.39
Including	133.8	136.7	2.9	5.29
Including	138.6	139.7	1.1	7.39

The holes were drilled in profile 14 and profile 31. Their location is shown on the map (Figure 10.1) and section (Figure 10.2).

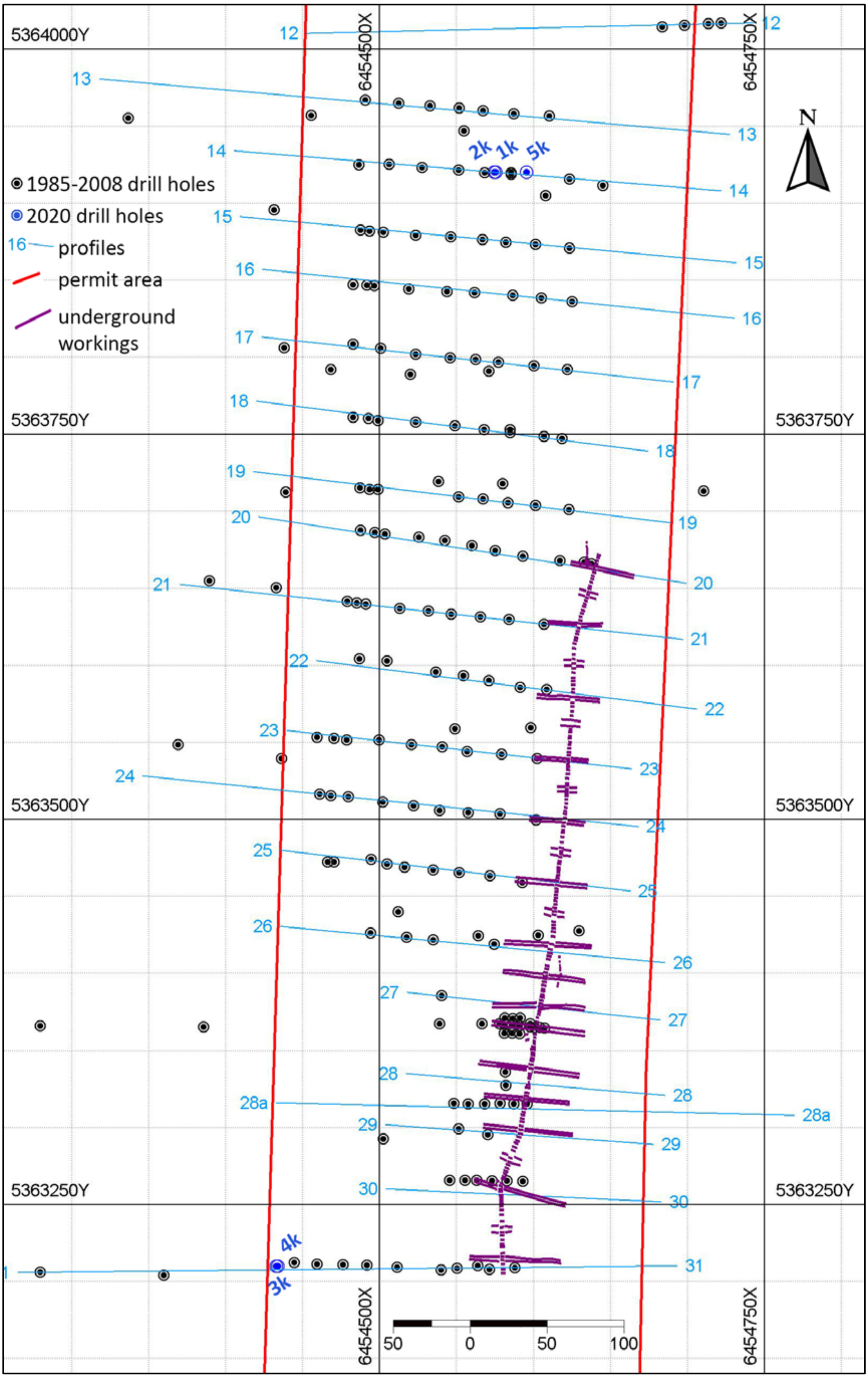


Figure 10.1: Klyntsi 2020 drillholes location map

Source: Bariatska N.

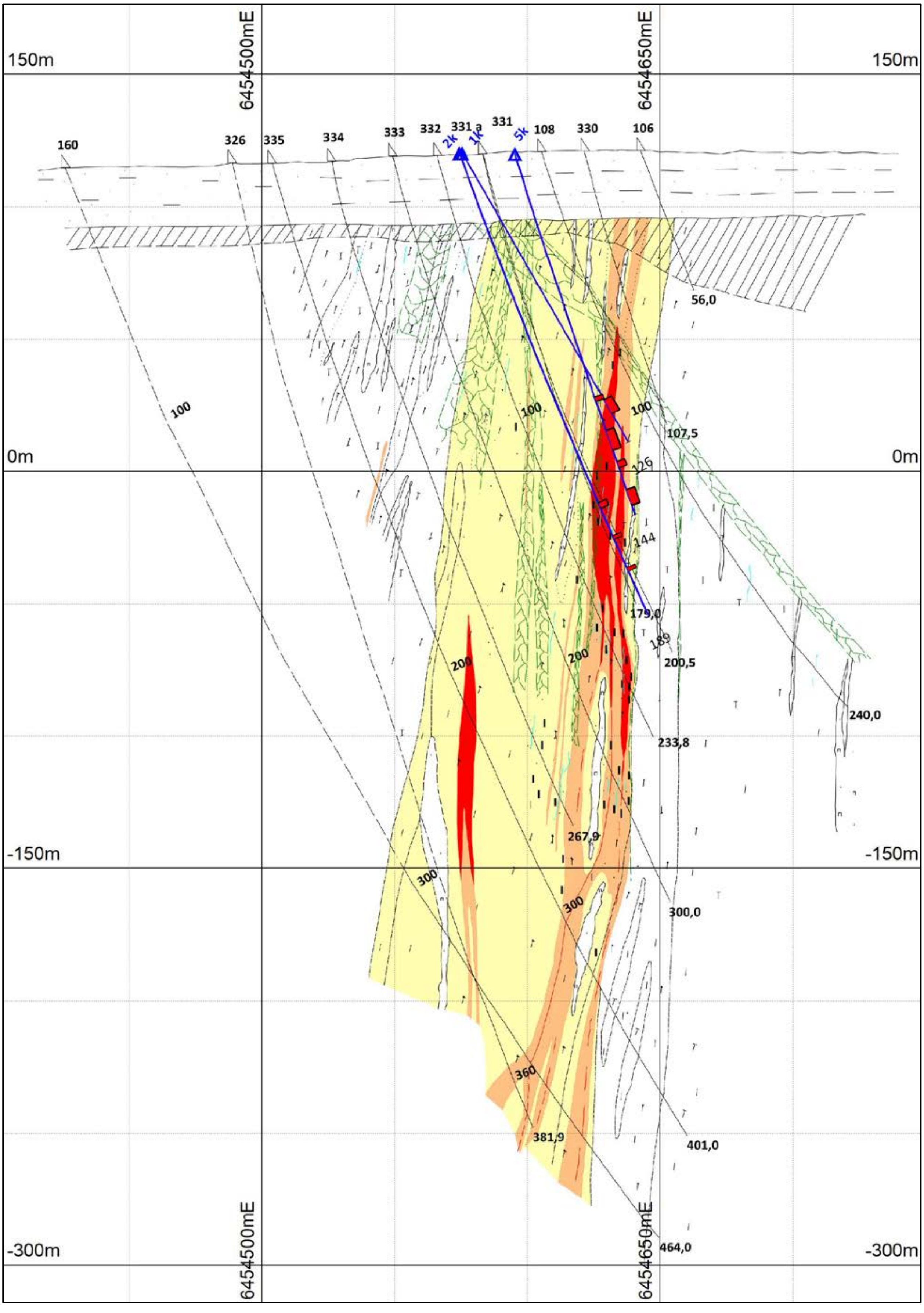


Figure 10.2: Klyntsi schematic drill section – geology (see Section 14 and Figure 10.1)
Source: Bariatska N. using report Marchenko et al., 2000

10.1.1 Drilling Procedures

Drilling Programs (1985 to 2008)

Drilling was performed by the drilling team of the Cherkasy Geological Exploration Expedition at all stages of the deposit exploration. Drilling diameters and types of drilling rigs are shown in the Table 10.3.

Table 10.3: Parameters and equipment for historical drilling

Exploration stage	Drilling rig type	Drilling diameter
Klyntsi site		
Geological depth mapping (1985 to 1989)	KGK-100 – mobile drilling rig with hydraulic core lifter	76 mm (main), 59 mm (reserve)
	UKB-4P – mobile drilling rig system (with core drilling rig СКБ-4)	76 mm (main), 59 mm (reserve)
Mining and drilling exploration (1991 to 1996) and advanced exploration (2001 to 2004)	ZIF-650-M – core drilling rig (up to depth 800 m)	76 mm (main), 59 mm (reserve)
	UKB -4P – mobile drilling rig system (with core drilling rig СКБ-4)	76 mm (main), 59 mm (reserve)
Hubivka site		
Geological depth mapping (1985 to 1989)	KGK-100 – mobile drilling rig with hydraulic core lifter	76 mm (main), 59 mm (reserve)
	UKB-4P – mobile drilling rig system (with core drilling rig СКБ-4)	76 mm (main), 59 mm (reserve)
Prospecting exploration (1988 to 1994)	KGK -100 – mobile drilling rig with hydraulic core lifter	76 mm (main), 59 mm (reserve)
	UKB-4P – mobile drilling rig system (with core drilling rig СКБ-4)	76 mm (main), 59 mm (reserve)

At the Central site, drillhole core samples from the 1985–2008 geological exploration are partially preserved, which was noted by the Qualified Person during the site inspection (Figure 10.3). A total of 36 drillholes were found by Lyra's geologists. Drillhole core samples from the Hubivka site have not survived.

Figure 10.3: Preserved drillholes of the Central site of the Klyntsi deposit (909 and 218 drillholes shown)
Source: Bariatska N.

Drilling Program (2020)

Lyra drilled five holes at the Klyntsi deposit from 25 April to 19 May 2020.

The Qualified Person (Nataliia Bariatska) visited working rigs on the site two times (at the time of drilling on 14 and 31 profiles) and observed how core was extracted from the holes. The Qualified Person noted that HQ drilling was carried out by PD 500-16 – MBEF (Figure 10.4) using core orientation by Reflex ACT III (Figure 10.5), operated by subcontracted drilling company Pozitif Sondaj.

Figure 10.4: Drilling at the Klyntsi deposit in 2020
Source: Bariatska N.

Figure 10.5: Core orientation procedure
Source: Bariatska N.

The planned hole locations were pegged by a surveying crew of Private Enterprise "Zhovten-2000" using appropriate surveying tools (GPS Trimble 5700 L1/L2 RTK) (Figure 10.6). The measurement accuracy (standard deviation) was 5 mm ± 0.5 mm/km in plan, 5 mm ± 1 mm/km in elevation (Fedorchuk, 2000).

Figure 10.6: Topo survey at the Klyntsi deposit

The collars of the drilled holes were concreted and signed with hole ID and year of drilling, to be preserved in the field (Figure 10.7).

Figure 10.7: Drillhole 2020

10.1.2 Drilling Monitoring

During diamond drilling a Lyra geologist supervised the drilling and monitored the core recovery. The geologist checked the hole location before the drilling commenced and was present at the drill rig until completion of the hole.

An example of box with core is shown in Figure 10.8.

Figure 10.8: Diamond core photograph example (hole ID 5k)
Source: Lyra

10.2 Downhole Surveys

10.2.1 Downhole and Underground Survey (1985 to 2008)

Geophysical techniques were similar for all exploration stages at the Project, with the following list of downhole geophysical surveys commonly used:

- Gamma-ray logging
- Gamma-gamma density logging
- Resistivity logging
- Natural polarisation logging
- Calliper measurement
- Deviation survey.

In addition, during the mining and drilling exploration stage (1991–1996), electrical correlation method (ECM) and photo-logging were used. ECM was applied in modifications of hole-hole (76 drillholes in 22 profiles) and hole-surface (153 drillholes in 44 profiles) (Marchenko, 2000).

Underground geophysical surveys using excitation-at-the-mass method (experimental-methodical work), electrical profiling and ECM in a small volume were carried out in several cuts.

10.2.2 Downhole Survey (2020)

Geophysical surveys in the holes were performed by the subcontracted Geophysical Logging crew of the State Enterprise "Ukrainian Geological Company". The complex of geophysical research consisted of methods:

- Gamma-ray logging
- Resistivity logging
- Natural polarisation logging

- Calliper measurement
- Electrode potential method logging
- Deviation survey.

Calliper measurements were performed with a calliper KM-2. Measurements of the average diameter of the drillhole were performed when lifting the tool out of the hole. The speed of registration did not exceed 800 m per hour. Before and after the measurements, the equipment was calibrated in calibration rings. Measurement accuracy was ±4 mm.

Inclinometry was performed by inclinometers MI-30 with a step of 10–20 m. Control measurements were 30% of the total measurements. The accuracy of determining the magnetic azimuth ±50" and the angle of deflection ±30".

All geophysical surveys in the holes were performed by the logging station СК-1-74, and registration of information was performed in digital format on the basis of equipment "Fozot-3".

Field materials for further processing and interpretation were accepted by the processing team. Acceptance of field materials was fixed in a log. Further interpretation was performed using a computerised system "Geopoisk" ("Geosearch"). All materials were promptly provided to Lyra in the form of "LAS" files and the corresponding graphic image.

10.3 Geological Logging

10.3.1 Geological Logging of Underground Workings

Geological logging in the underground workings consisted in the description of the structure, contacts of mineralisation, and accompanying metasomatic alterations. The following procedure of geological logging was adopted: preliminary inspection of working, cleaning, measuring the dimensions of the working, measuring the geological boundaries, text description, sampling, sketches of the walls, roof, sample locations, associated observations. Sketches (scale 1:50, with mineralised or other important features at a scale of 1:20) showed the orientation of the sketch, scale, size (section) of the working, and sample locations.

10.3.2 1985-2008 Core logging

Geological logging of diamond drill core included the rock description with depth intervals, comment on visible gold, structural features, and metasomatic alterations accompanying mineralisation. This information was noted in the geological logging books for each drillhole. Lyra maintains an electronic archive of primary geological information.

According to Lyra's information, the core samples from 15 drillholes (770 m) of the Central site and most of the Hubivka site core was preserved. All the preserved core is held in storage in a facility in Cherkasy city. Lyra has not resampled this core.

Figure 10.9 shows an example of preserved core from "903" drillhole and corresponding data are presented in Table 10.4.

Figure 10.9: *Preserved core of drillhole 903 (232.3–248.5 m)*
Source: Lyra

Table 10.4: *Geological data and gold grades of drillhole 903 (232.3–248.5 m)*

Drillhole ID	Sample ID	Interval (m)	Rock	Au, g/t
903	153	232.3–233.4	Granite, gneiss	1.02
903	154	233.4–234.1	Granite, biotite gneiss	<0.05
903	155	234.1–235.5	Biotite gneiss	<0.05
903	156	235.5–236.6	Biotite gneiss, quartz	<0.05
903	157	236.5–237.5	Biotite gneiss	<0.05
903	158	237.5–238.1	Biotite gneiss	<0.05
903	159	238.1–238.9	Granite	<0.05
903	160	238.9–239.8	Granite	<0.05
903	161	239.8–240.3	Granite	<0.05
903	162	240.3–240.7	Granite	<0.05
903	163	240.7–241.9	Gneiss, quartz	<0.05
903	164	241.9–242.3	Gneiss, quartz	<0.05
903	165	242.3–242.7	Gneiss, quartz	0.1
903	166	242.7–243.2	Gneiss, quartz	0.06
903	167	243.2–243.7	Gneiss, quartz	0.18
903	168	243.7–244.1	Gneiss, quartz	0.76
903	169	244.1–244.6	Gneiss, quartz	1.07
903	170	244.6–245.2	Biotite gneiss	<0.05
903	171	245.2–246.2	Gneiss, quartz	0.14
903	172	246.2–247.9	Biotite-graphitic gneiss	<0.05
903	173	247.9–248.3	Biotite-graphitic gneiss	<0.05

Drill core was available for physical inspection during the Qualified Person's site visit. Core boxes were found with labels and depth blocks (Figure 10.10). Most of the boxes contained half core samples, but in some places the core samples were missing. Each core run is labelled with the depth of sample location, down hole, and hole name. Each box contains between 5 m and 5.5 m of core.

Figure 10.10: Preserved core of historical drillholes
Source: Bariatska N.

10.3.3 Core Logging (2020)

Core was geologically logged for lithology, structure, alteration, and mineralisation. Visible gold was noted. Geological logging of the core was performed either at the drillhole (Figure 10.11Figure 11.11), or in the core storage facility. All drill core was photographed (wet).

Figure 10.11: Geological logging at the field camp

10.4 Sampling

10.4.1 Drillhole Sampling (1985 to 2008)

All core samples within the mineralisation zone were sampled. If the drilling diameter was 76 mm, making up 74% of the total drilling, then half of the core split along the axis was taken into the sample. If the drilling diameter was 59 mm, then the entire core sample was taken for chemical analysis.

In the mineralisation zone, samples were taken at geological intervals, taking into account the lithology and geological structure within the drilling run. A total of 42,282 core samples were taken at all stages of geological exploration with an average length 1.09 m.

For the validation of core sampling, 113 group samples from 18 drillholes across 10 profiles were formed and analysed. The material of group samples, combined from ordinary samples, was processed on a concentration table to obtain concentrates and tailings. The wash products were analysed by chemical analysis for gold. The results of comparing gold grades for ordinary and group samples showed the absence of a systematic error and good convergence (Marchenko, 2000).

Chip sampling was used in the early stages of Klyntsi deposit exploration. The average length of the chip samples was 2 m, and the average weight was 2 kg. The samples were analysed by a semi-quantitative spectrometric method. During “mining and drilling” exploration, all intervals with a gold grade >0.1 g/t were resampled with core samples and analysed by fire assay. Therefore, chip samples are not used in Mineral Resource estimation.

10.4.2 Channel sampling of underground workings

All underground mine workings have been sampled. The channels were linear across a rectangular section of the face of the underground workings and usually intersected mineralisation in an orthogonal direction to the strike of mineralisation. The sample length depended on the thickness of the mineralised zone, internal structure, the nature of the geological boundaries, and lithologies.

During all stages of geological exploration, 3,170 channel samples were taken, with the average length of samples from crosscut and chambers being 0.86 m, and from shaft, an average length of 0.95 m.

Additional types of sampling were presented by chip samples (132 samples in total), bulk and group samples. These samples were not involved in the Mineral Resource estimation process.

Control sampling was carried out by taking conjugate channel samples, slit samples and bulk samples. Also, for the verification of furrow channel, five group samples from underground mine workings were formed and analysed. The results of comparing gold grades for ordinary and group samples showed the absence of a systematic error and good convergence (Marchenko, 2000).

10.4.3 Comparison of the Results of Channel and Core Sampling

To compare the results of core and channel sampling in order to assess their confidence estimation, special investigations were carried out (2000).

To determine the location of pit no. 1, 13 control holes were drilled, and traces of two of them (no. 50 and 52) were opened by the walls of the pit (northeast and northwest, respectively). A direct comparison of the sampling results between the drillhole core and the channels of the pit walls in the same intervals was carried out. A total of 160 samples were used in comparison and calculations. Due to the different sample lengths, linear grade was used in the calculations.

Linear grade for drillhole no. 52 was 9.02 g/t/m; for the same interval of the northwest wall of the pit, a linear grade of 12.7 g/t/m was calculated. Linear grade for drillhole no. 50 was 15.65 g/t/m; for the same interval of northwest wall of the pit, a linear grade of 21.97 g/t/m. Consequently, the values of the gold grade in the drillholes were on average 1.4 times lower than in the pit.

In order to compare the resources obtained on the basis of only core or only channel samples, the resources were estimated for two zones of mineralisation at a level of +70 m. According to core sampling data of drillholes for profiles 20 to 31, gold resources amounted to 4.83 kg, and according to the data of channel sampling of drifts no. 1 and 2, through cross sections 1 to 30, gold amounted to 6.89 kg. Accordingly, the resources estimated from the drilling data were 1.43 times less than the data from the underground workings sampling.

As a result of the described studies and comparing the grades in the ordinary and bulk samples, it was found that samples of a larger volume characterise the gold grade with greater reliability, or confidence. This is due to the complex structure of the mineralisation of the Klyntsi deposit, with coarse gold of extremely uneven distribution (**Error! Reference source not found.**).

Figure 10.12: Coarse visible gold of the Klyntsi deposit

The main conclusions are:

- The results of underground workings sampling are generally higher grade than the results of drillhole sampling, due to the significantly higher sample weight
- The gold resources of the Klyntsi deposit, estimated on the drillholes data, are most probably underestimated for these reasons.

10.4.4 Drillhole Sampling (2020)

The diamond core was sampled throughout the entire mineralised zone. Samples were taken at intervals of 1 m, taking into account lithology. Outside the mineralised zone, samples can >1 m in length. A total of 685 samples were taken.

Each sample was taken from half of the core. The core was split along the axis with a diamond saw (Figure 10.13). Pulp from the splitting which washed off each sample was dried, put into a separate plastic packet (Figure 10.14) and added to the bag with the corresponding sample.

Figure 10.13: Splitting of core

Figure 10.14: Pulp of splitting

Each sample was weighed before packing. A unique sample number (Sample_ID) was applied to each sample, including the drillhole number and sample number from 001 ascending with depth: 1k/001, 1k/002, etc.

For each sample:

- The extended data label is retained in the core box (Figure 10.15)
- The short label is put in the sample bag (Figure 10.15)
- The bag is marked with a permanent marker (Figure 10.16).

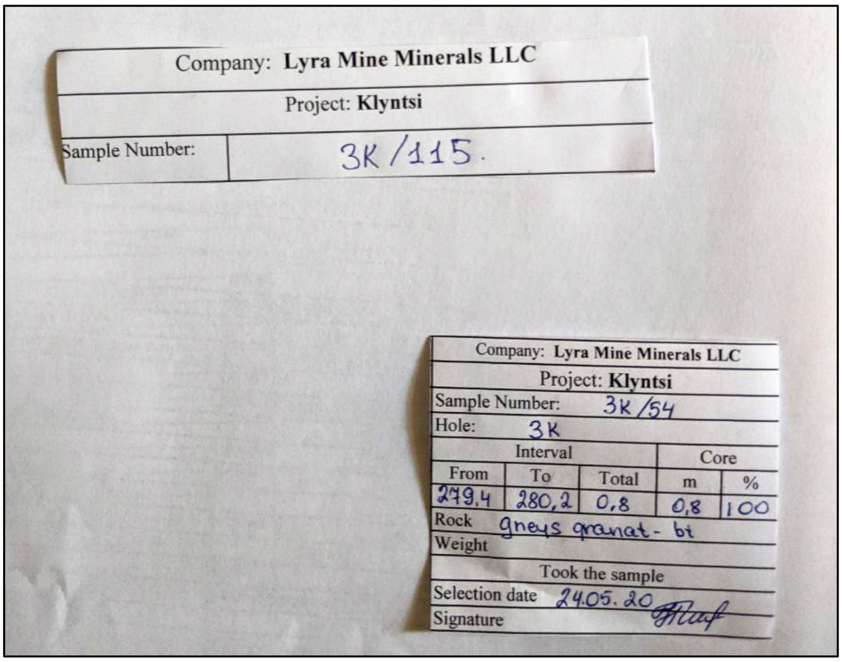


Figure 10.15: Sample labels

Figure 10.16: Packed and marked sample

Figure 10.17: Samples prepared for send to the laboratory

11 Sample Preparation, Analyses and Security

11.1 Sample Preparation and Analyses

11.1.1 Sample Preparation and Analyses (1985 to 2008)

At all stages of geological exploration from 1985 to 2008, sample preparation and analyses were carried out by Central Laboratory of the State Enterprise "Centrukrgeologiia" (Cherkasy Geological Exploration Expedition).

All core and channel samples taken from drillholes and underground workings went through the sample preparation routine as shown in Figure 11.1.

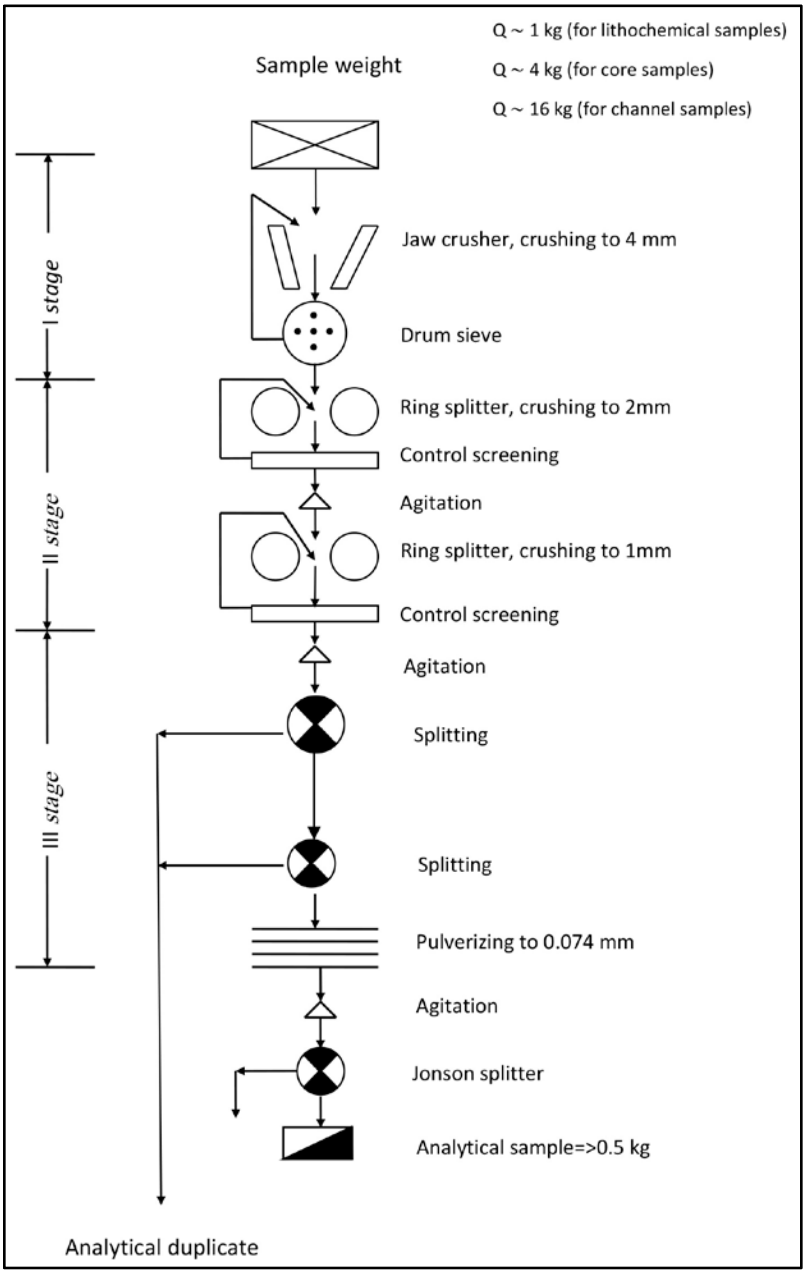


Figure 11.1: Generalised sample preparation scheme used between 1985 and 2008
Source: Bariatska N. according to data of Babynin, 1994; Marchenko, 2000; Bratchuk, 2004

Sample preparation was very similar during all exploration programs. All samples were initially registered, weighed and dried. All samples were then ground to 3–4 mm, 2 mm and 1 mm particle size using several jaw crushers, then agitated, split with reduction in volume. The samples were then reduced to 1–2 kg and pulverised to 0.074 mm, and then reduced to 0.5 kg for fire assay tests. The resultant material was used for the main, control and repeat analyses.

Classical fire assay analysis with gravimetric finish was used to determine gold grades.

11.1.2 Sample Preparation and Analyses (2020)

Sample preparation and analyses of core samples from the 2020 drill program was carried out by ALS Global Laboratory (Ireland). The ALS Global Laboratory are accredited ISO 9001:2015, 45001:2018 and ISO 14001:2015. ALS Global and their employees are independent from Lyra.

For sample preparation, a standard procedure (PREP-31B) was used and included dry, crush, split and pulverise (Table 11.1).

Table 11.1: Standard sample preparation (PREP-31B)

Method code	Description
LOG-22	Sample is logged in tracking system and a bar code label is attached.
CRU-31	Fine crushing of rock chip and drill samples to better than 70 % of the sample passing 2 mm.
SPL-21	Split sample using riffle splitter.
PUL-32	A sample split of up to 1000 g is pulverized to better than 85 % of the sample passing 75 microns.

The sample is logged in the tracking system, weighed, dried and finely crushed to better than 70% passing a 2 mm (Tyler 9 mesh, US Std. No. 10) screen. A split of up to 1,000 g (for screen fire assay – up to 3,000 g) is taken and pulverized to better than 85% passing a 75 micron (Tyler 200 mesh) screen (Figure 11.2). This method considered by the Qualified Person to be appropriate for rock chip or drill samples.

Fire assay with atomic absorption spectrometry (AAS) finish and screen fire assay were used to determine the gold grade. Traditionally, fire assays are undertaken on a 50 g aliquot of a pulverised sample. The key difference with a screen fire assay lies in the larger volume of sample (1 kg and more), and screening (usually to -100 micron) to separate coarse gold particles from fine material. After screening, two aliquots of the fine fraction are analysed using the traditional fire assay method. The fine fraction is expected to be reasonably homogenous and well represented by the duplicate analyses. The entire coarse fraction is assayed to determine the contribution of the coarse gold. A “total” gold calculation for the whole sample based on the weighted average of the coarse and fine fractions (Gold Screen Fire Assays, 2020).

Screen fire assay was used to increase the sample (aliquot) weight, which is very important for coarse gold with an uneven distribution.

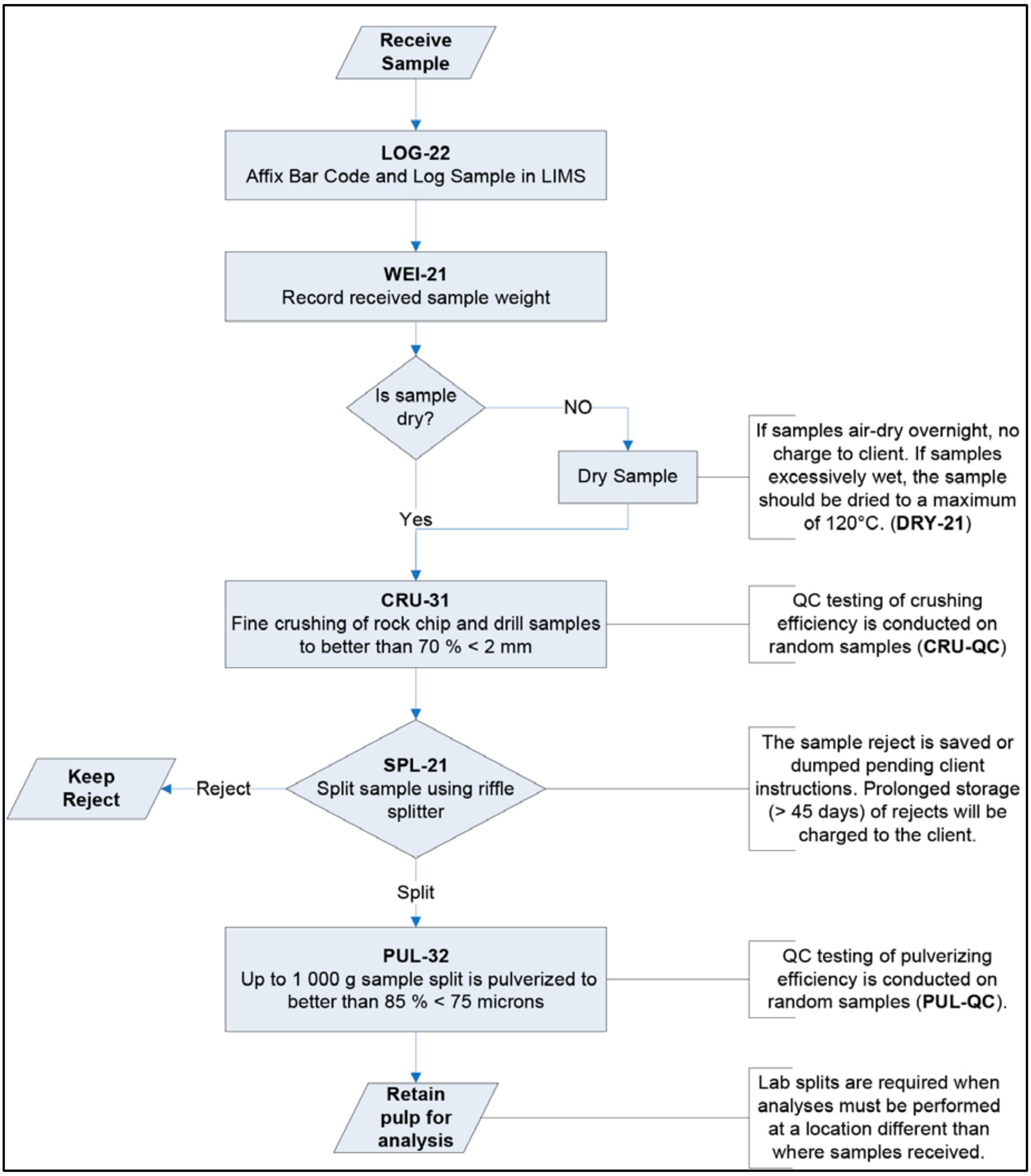


Figure 11.2: Sample preparation scheme (2020)

Source: ALS

11.2 Bulk Density Data

The bulk density of the Central site rocks of the Klyntsi deposit was measured in the Central Laboratory of the State Geological Enterprise "Sevukrgeologiya". The bulk density of rocks in the mineralised zone varies between 2.46 t/m^3 and 3.02 t/m^3, and the average bulk density for mineralization zone rocks is 2.725 t/m^3. According to the density characteristics, two main groups of rocks are clearly distinguished; gneisses of the Checheliivka Suite, and pegmatoid granites of the Kirovograd Complex. Granites have an average density of 2.62 t/m^3, which is typical for normal aplite-pegmatoid granites. The gneisses of the Checheliivka Suite, which constitute >90% of the rock volume in the mineralised zone, are characterised by an average density of 2.74 t/m^3. This type of density distribution is caused by the variability of the mineral composition of rocks due to the intense alteration of various metasomatic processes. The processes that increase the density of rocks are mainly biotitisation, amphibolisation and sulphidisation (Marchenko, 2000).

Table 11.2: Bulk density of the Klyntsi deposit Central site

No.	Rock name	Scope of tests	Bulk density (t/m³)
Rocks of the ore zone of the Central site, including:		634	2.73
1	Granites with quartz-feldspar veinlets	70	2.50–2.72
2	Gneisses	498	2.46–3.02
3	Ore gneisses (Au grade > 0.4 g/t)	66	2.69–2.85

The bulk density of the Hubivka site ore rocks was measured during metallurgical tests of drill samples. Physico-mechanical tests were carried out on three samples, composed of the remains of drill samples. The average value of the bulk density is 2.7 t/m^3 for the biotite-quartz type of ores of the Hubivka site (Symbilenko, 2007).

11.3 Quality Assurance and Quality Control Programs

11.3.1 Sampling Programs (1985 to 2008)

Summary

The QAQC analysis comes from a combination of information and observations gathered during the site visit, and from data that was provided to the Qualified Person. This included:

- Measurement of sample and core recovery
- Laboratory control at each stage of exploration by an independent laboratory.

Core Recovery

Linear core recovery data was provided for 308 diamond drillholes (60,304 records) that were drilled from surface. The average core recovery was 95%. No intervals had core recovery over 100% (“core gained”). Table 11.3 summarises the data.

Table 11.3 indicate that most of the intervals have the core recovery above 90%. However, some intervals show lower core recovery. The cumulative length of the intervals with core recovery of less than 90% is 18,382.7 m (23% of the total length), while the recovery of less than 80% is 6,235 m (8% of the total length).

Table 11.3: Core recovery summary of crystalline rocks (1985–2008 drilling programs)

Core recovery	No. of holes	No. of samples	Total length (m)	Average core recovery (%)
All holes	308	60,034	79,407.2	95
<95%	305	19,430	29,502.3	84
<90%	304	11,804	18,382.7	79
<80%	281	3,640	6,235.0	68
>100%	-	-	-	-

It should be noted that for the mineralised zone, on average, the core recovery is higher than for the whole deposit. Samples with a core recovery <80% within the ore zone amount to 1.5% of all samples with such a core recovery.

The Qualified Person believes that the core recovery was satisfactory. The analysis did not reveal any issues that could be material to the data or that could result in exclusion of any drillholes from the MRE.

Laboratory Control

All laboratory tests were carried out in the Central Laboratory of the State Enterprise “Centrukrgeologiia” (until 1997 – the Cherkasy Geological Exploration Expedition) in Cherkasy town. The main method for gold was assay with gravimetric finish.

Pulps from all types of samples (core, geochemical, channel), were sent for external control. Between 1992 and 1996, 150 samples were sent to the Central Laboratory of the Zakarpattia Geological Exploration

Expedition (Beregovo). In 1997, 57 core samples from wells and underground workings were sent to Chemex Labs Ltd (North Vancouver, Canada). In 2003, 32 samples passed external control at the Central Laboratory of Zakarpatpolimetals LLC (Mukachevo). The samples were mainly represented by three main classes of gold grades (0.4–1.0 g/t, 1.0–4.0 g/t, and 4.0–16.0 g/t).

The results of external control data are shown in the Figure 11.3.

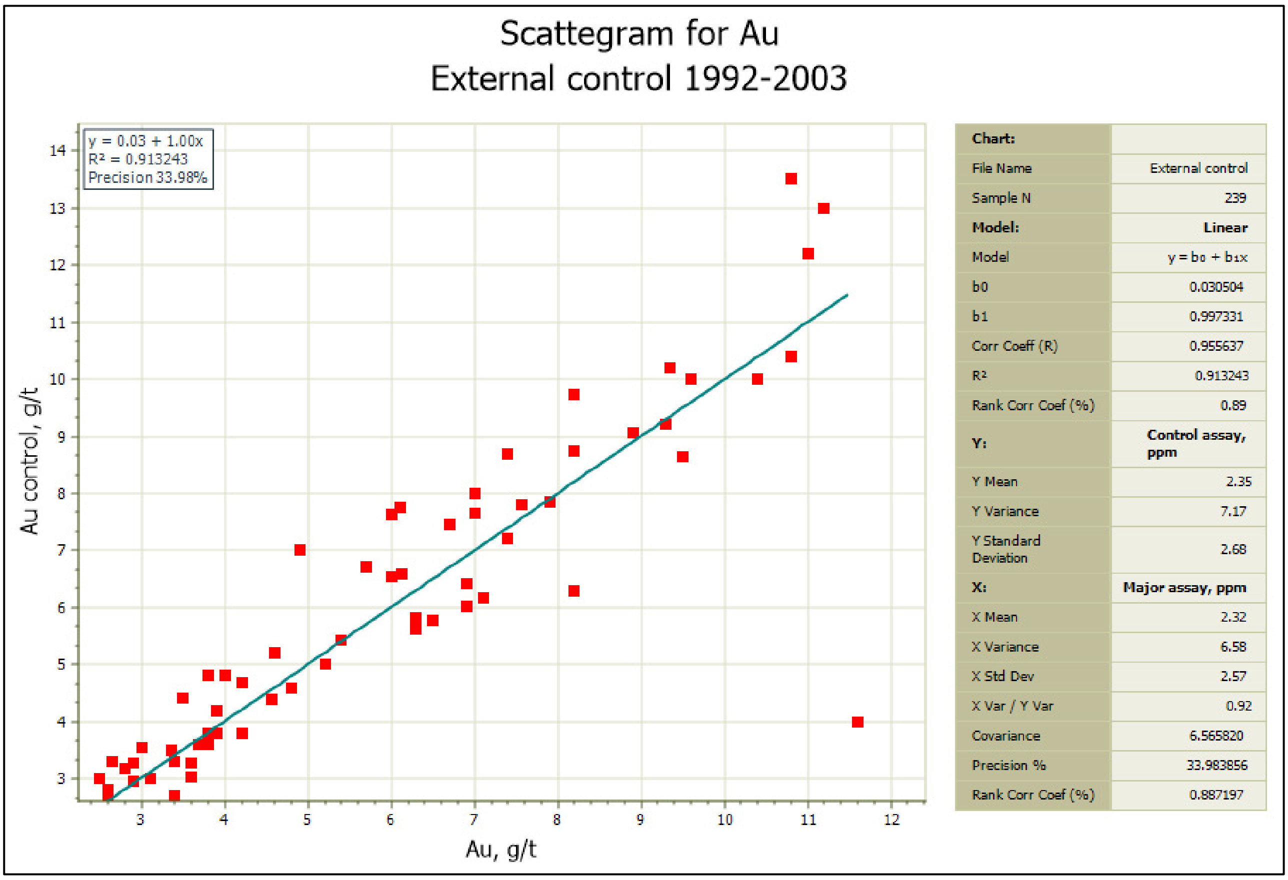


Figure 11.3: Gold assay precision (historical data – 1992 to 2003)

The provided duplicate assays are from 239 pulp samples. Scattergram for gold demonstrated that the repeatability of analyses was within acceptable limits with one outlier, with 34% precision and 0.99 coefficient of correlation (Figure 11.3).

The Qualified Person believes the supplied population of repeat assays is acceptable and representative for the historical data. The reported assay precision for both sets of assays was within acceptable limits.

11.3.2 2020 Sampling Program

Summary

The QAQC analysis comes from a combination of information and observations gathered during the Qualified Person's site visit and data that was provided. This included:

- Measurement of sample and core recovery.
- Submitting field duplicates to the laboratory – ALS Global (Ireland). The coding took place by Nataliia Bariatska (Qualified Person) and Lyra geologists in core storage, so the analytical laboratory was not aware which samples were field duplicates.
- Submitting preparation blanks to the laboratory – ALS Global (Ireland). The coding took place by Nataliia Bariatska and Lyra geologists in core storage, so the analytical laboratory was not aware which samples were preparation blanks.

- Standards and blanks were submitted with each analytical batch to reference the performance of the analysis and sample preparation. The coding took place by Nataliia Bariatska and Lyra geologists, so the analytical laboratory was not aware which samples were standards and analytical blanks.

Core Recovery

Linear core recovery data was provided for five diamond drillholes that were drilled from surface (495 records of which 392 records refer to crystalline rocks). The average core recovery of crystalline rocks was 98.5%. No intervals had core recovery over 100 % ("core gained"). Figure 11.4 shows the Core Linear Recovery Measurement Procedure.

Table 11.4 indicate that most of the intervals have the core recovery above 90%. However, some intervals show lower core recovery. The cumulative length of the intervals with core recovery of less than 90% is 15.1 m (1.5% of the total length), while the recovery of less than 80% is 4.1 m (0.4% of the total length).

Table 11.4: Core recovery summary of crystalline rocks (2020 drilling program)

Core recovery	No. of holes	No. of intervals	Total length (m)	Average core recovery (%)
All holes	5	391	1023.1	98.5
<95%	5	28	42.9	85.8
<90%	5	12	15.1	77.3
<80%	2	4	4.1	64
>100%	-	-	-	-

Figure 11.4: Core linear recovery measurement
Source: Bariatska N.

The Qualified Person believes that the core recovery was satisfactory. The analysis did not reveal any issues that could be material to the data or that could result in exclusion of any drillholes from the MRE.

Field Duplicates, Sampling Control

Lyra submitted field (core) duplicates to the laboratory (ALS Global, Ireland) to monitor sampling procedures. Field duplicates were made by Lyra from quarter core samples. Field duplicates were submitted generally with the rate of one blank for each batch of 20 samples. The supplied database contained analyses of 29 field duplicates.

The scattergrams for field duplicates demonstrated that the repeatability of analyses was with 63% precision and 0.92 coefficient of correlation with no outliers for gold for core samples, and 92% precision and 0.91 coefficient of correlation without significant outliers.

Precision was calculated and reported using Micromine statistical processes. Gold precision plots are shown in Figure 11.5.

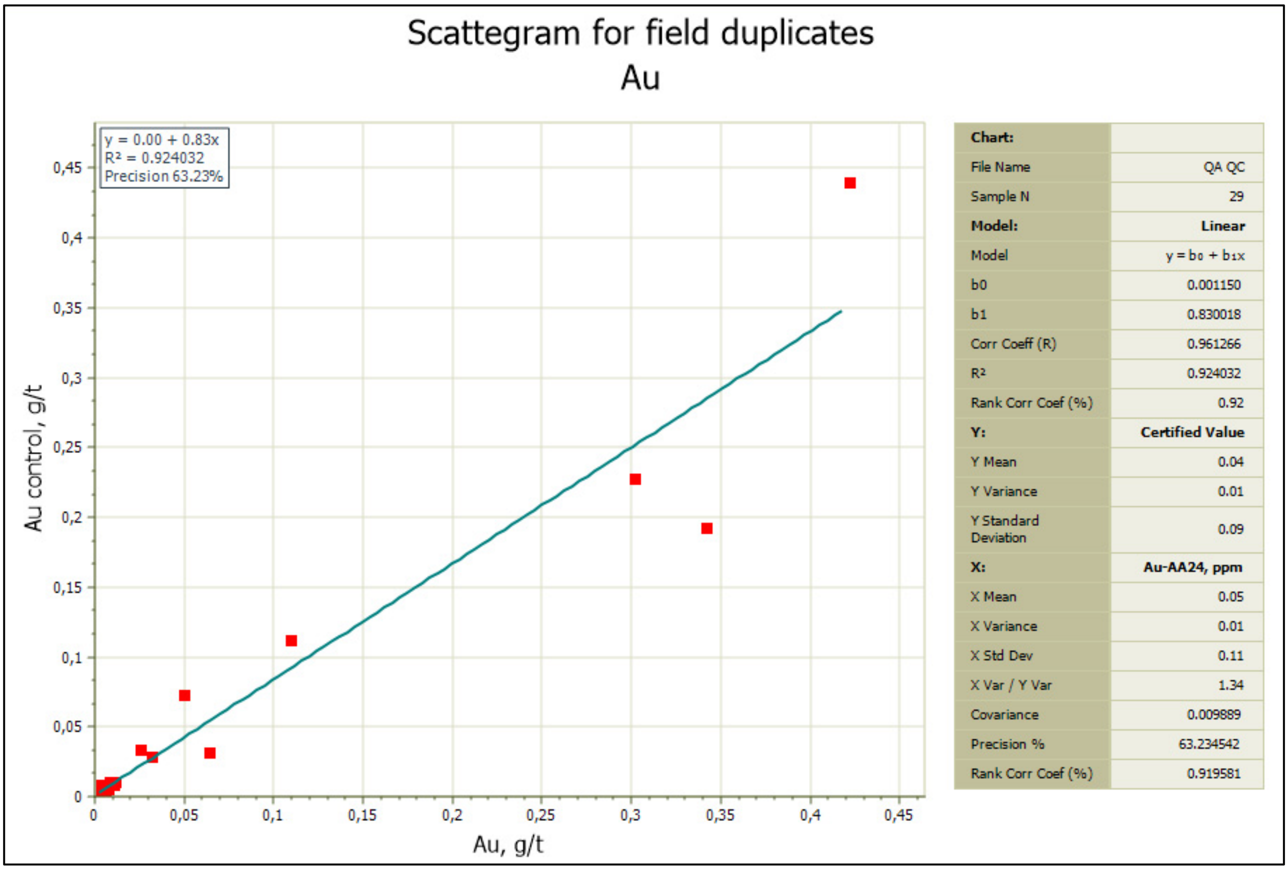


Figure 11.5: Comparison of assay results for field duplicates

The average gold grade for original core samples was 0.043 g/t Au, and for repeat samples it was 0.05 g/t Au, which is a 14% relative difference.

The Qualified Person believes that the results of field duplicate analyses are within acceptable limits.

Blanks, Sample Preparation Control

Lyra submitted preparation (core) blanks to the laboratory (ALS Global, Ireland) to monitor potential contamination at the sample preparation stage.

The preparation blanks were made by Lyra from unmineralised anorthosite from another deposit. All preparation blanks were ground, pulverised and analysed together with ordinary samples in the laboratory. Blanks were submitted generally with the rate of one blank for each batch of 40 samples (together with analytical blank for each batch of 20 samples).

The supplied database contained 15 analyses of preparation blanks from grade control.

Out of 15 analyses for preparation blanks, two samples show grades of 0.012 g/t and 0.009 g/t Au (which is 13% of the total number of blanks preparation). The rest of the samples (87%) showed the grades below the detection limit (<0.005 g/t).

Analysis of the blanks did not indicate any material sample preparation and analytical laboratories cross-contamination during sample preparation and analytical work. It is likely that no contamination of gold grades occurred during the sample preparation and analytical procedures at the laboratories.

The Qualified Person believes that the results of blanks analyses are within acceptable limits.

Pulp Duplicates

Analytical accuracy was estimated according to the data from the QAQC analysis laboratory (ALS Global Lab, Ireland). The pulp duplicates included 37 repeat tests for screen fire assays and 32 repeat tests for fire assays.

The scattergrams for pulp duplicates for screen fire assay demonstrated that the repeatability of analyses was with 39.9% precision and 0.95 coefficient of correlation with no outliers.

The scattergrams for pulp duplicates for fire assay demonstrated that the repeatability of analyses was with 35.3% precision and 0.93 coefficient of correlation with no outliers.

Precision was calculated and reported using Micromine statistical processes. Gold precision plots are shown in Figure 11.6 to Figure 11.7.

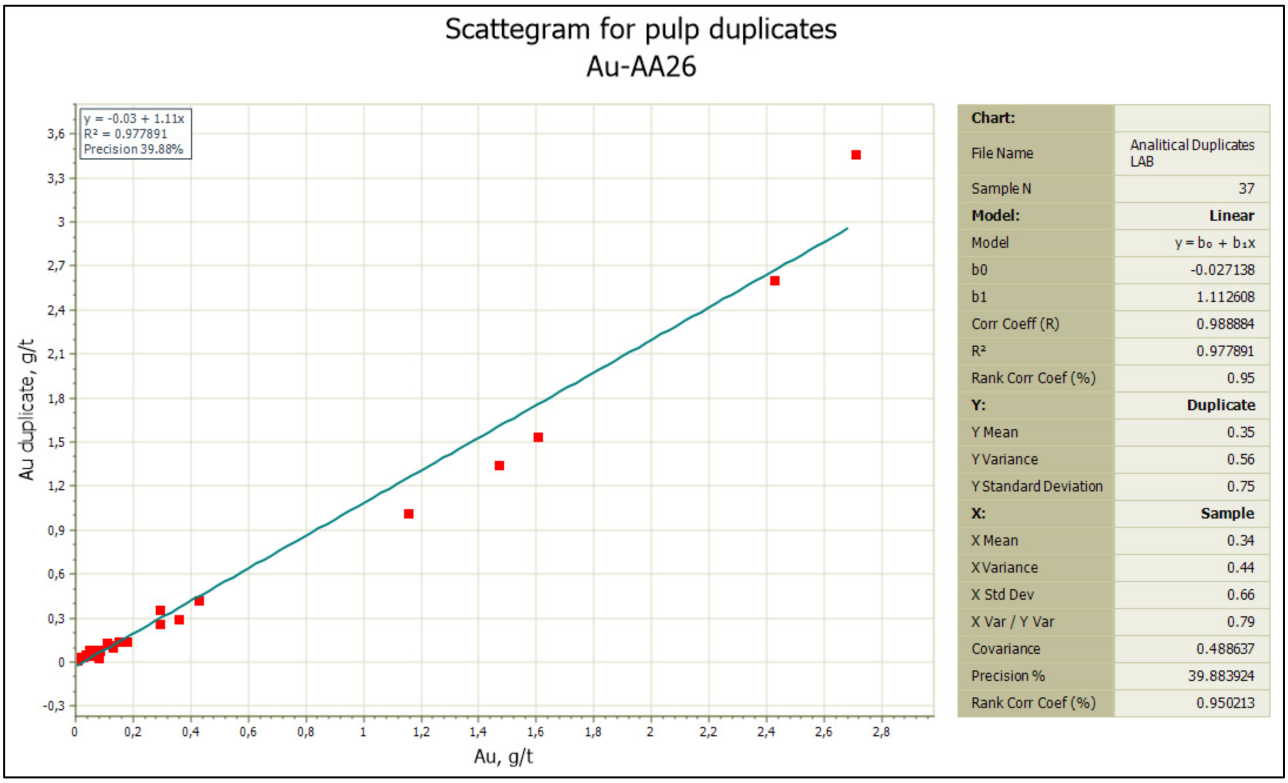


Figure 11.6: Gold screen fire assay precision (pulp duplicates)

The average gold grade for original core samples was 0.335 g/t Au, and for repeat samples it was 0.346 g/t Au, which is 3.3% different (relative). The difference is within the acceptable limits.

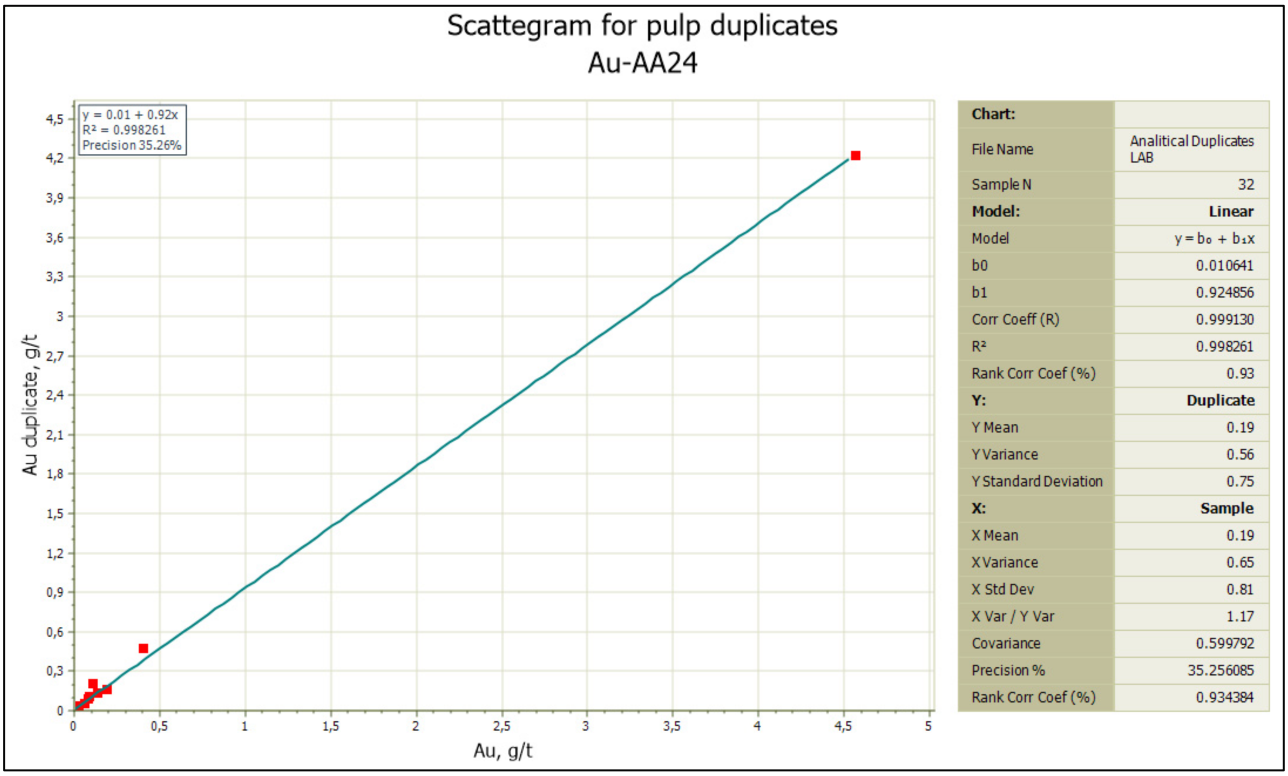


Figure 11.7: Gold fire assay precision (pulp duplicates)

The average gold grade for original core samples was 0.193 g/t Au, and for repeat samples it was 0.189 g/t Au, which is 2.1% different (relative). The difference is within the acceptable limits.

The Qualified Person concludes that the reported precision for gold is a bit lower than expected. It is expected that the precision for fire assay for gold should not be greater than 15–20%, therefore 39.9%, 35.3% precision for gold is a bit higher than expected. However, the coefficient of correlation is 0.95, 0.93 and the relative average difference between the assays of 3.3%, 2.1% which demonstrates acceptable sample repeatability. The overall repeatability of assays is reasonable.

Certified Reference Materials and Blanks

Lyra geologists inserted commercial certified reference materials (CRMs) sourced from Ore Research & Exploration Pty Ltd (Australia). CRMs and blanks were added to every analytical batch. CRMs were submitted generally with the rate of one blank for each batch of 20 samples, and blanks for each batch of 20 samples. Four CRMs and a certified blank were used.

The database supplied by Lyra contains a total number of 43 CRM results, including 15 blanks. Table 11.5 summarises CRMs submitted by Lyra.

Table 11.5: List of standards used by Lyra

CRM	Company	Au (g/t)	Au STD
OREAS 228b	Ore Research & Exploration Pty Ltd	8.57	0.199
OREAS 216b	Ore Research & Exploration Pty Ltd	6.66	0.158
OREAS 226	Ore Research & Exploration Pty Ltd	5.45	0.126
OREAS 231	Ore Research & Exploration Pty Ltd	0.542	0.015
OREAS 21e	Ore Research & Exploration Pty Ltd	0.001	-

All results for each CRM were analysed separately. Results are presented from Figure 11.8 to Figure 11.11 with a discussion following each figure.

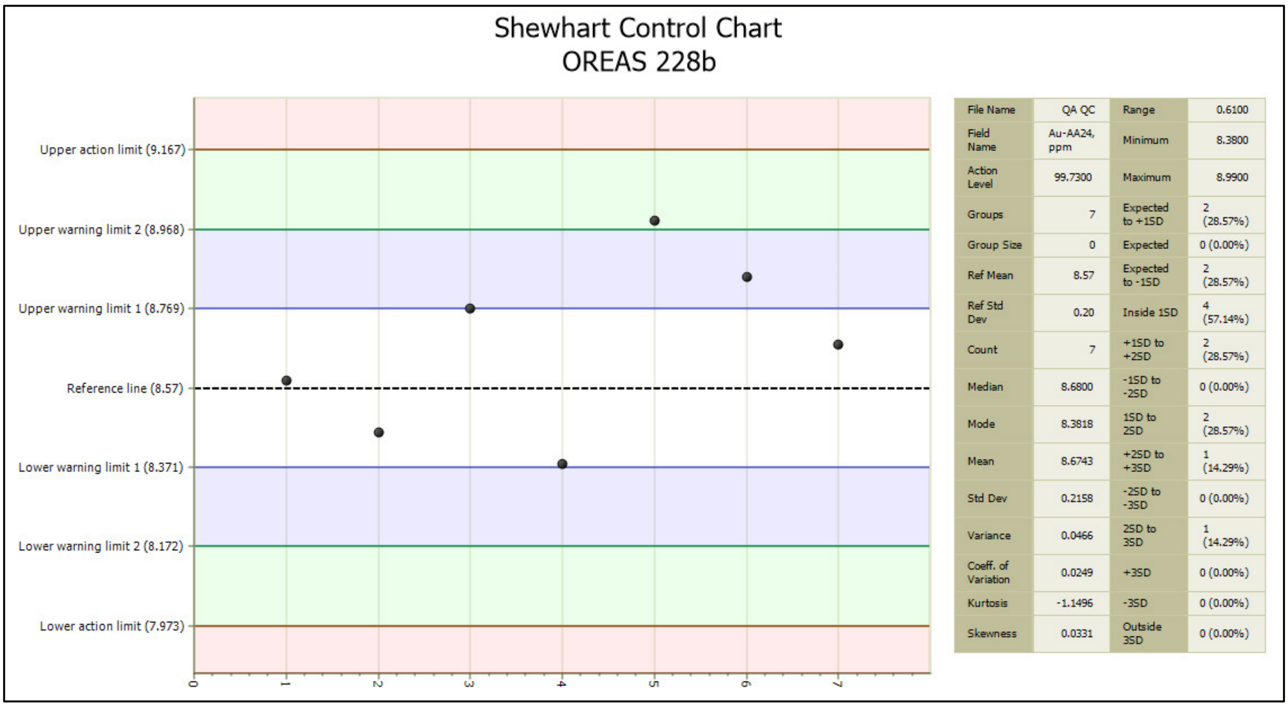


Figure 11.8: Distribution of analysis deviation for Standard OREAS 228b – Shewhart control chart

Standard OREAS 228b was submitted to the laboratory seven times for gold. The gold grade of that sample was 8.67 g/t which is 1.2% higher (relative) than the expected CRM grade 8.57 g/t. The sample grade was not below or above the upper or lower action limits.

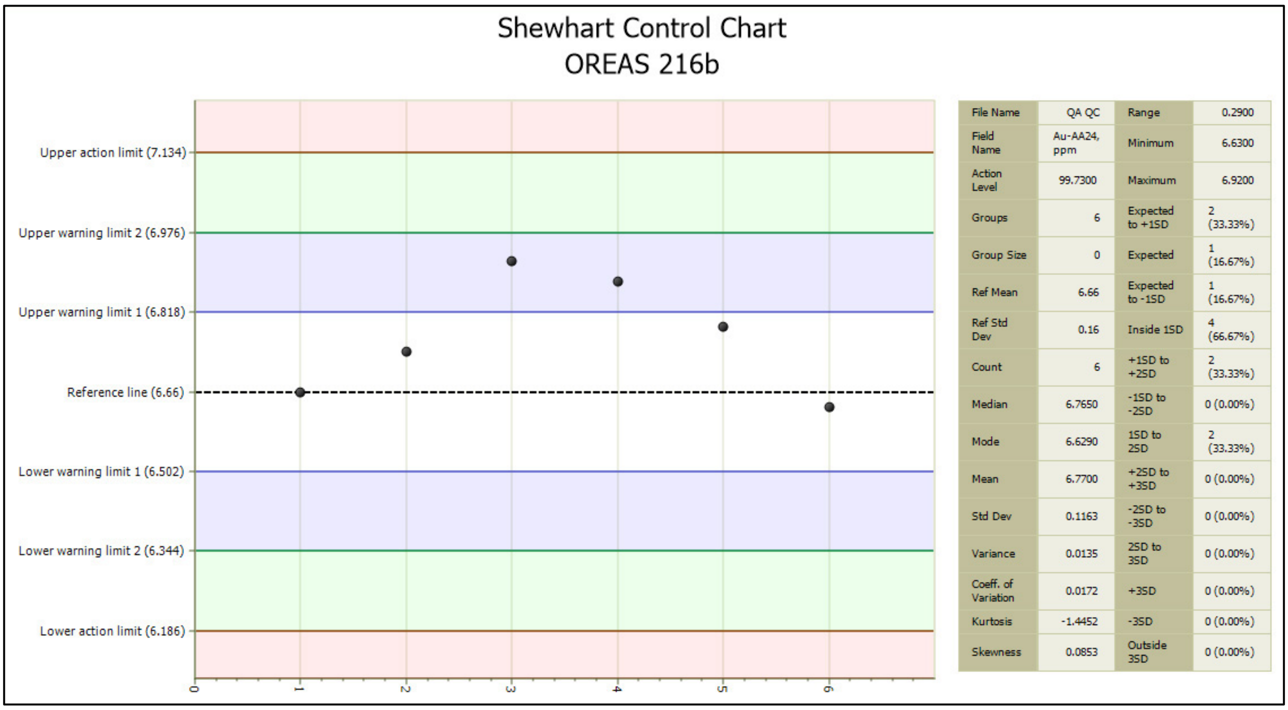


Figure 11.9: Distribution of analysis deviation for Standard OREAS 216b – Shewhart control chart

Standard OREAS 216b was submitted to the laboratory six times for gold. The gold grade of that sample was 6.77 g/t which is 1.7% higher (relative) than the expected CRM grade 6.66 g/t. The sample grade was not below or above the upper or lower action limits.

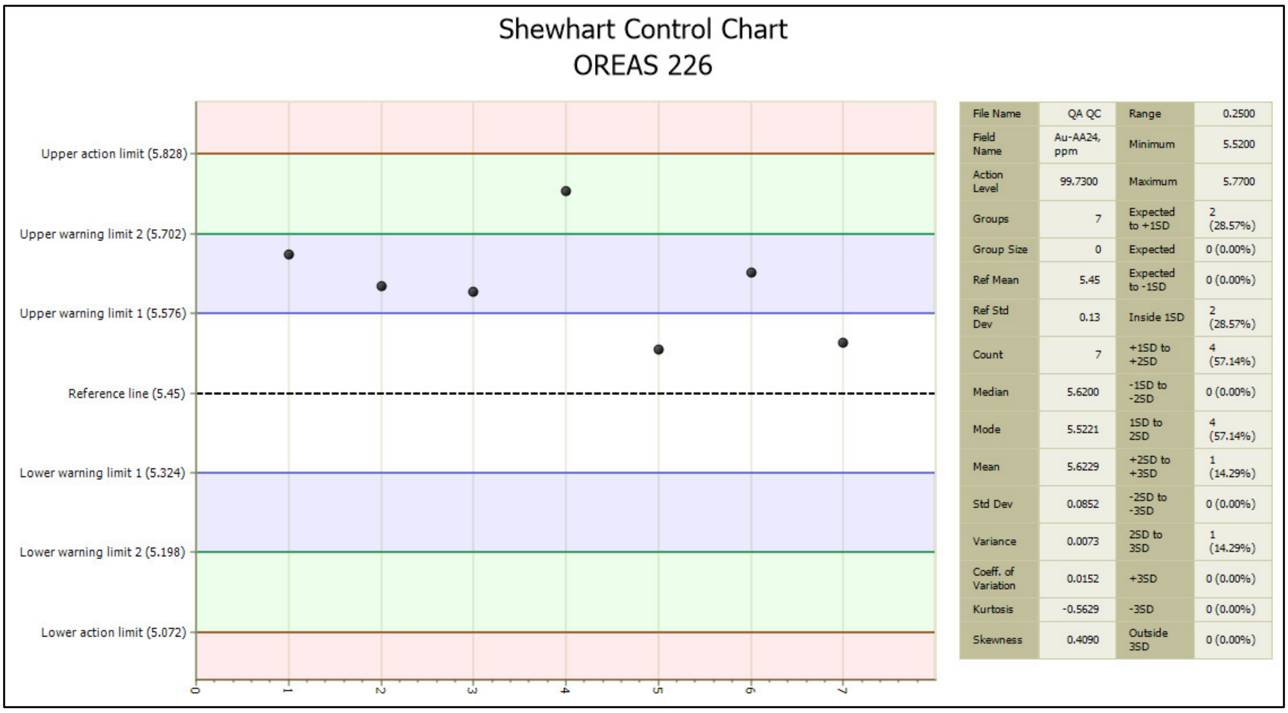


Figure 11.10: Distribution of analysis deviation for Standard OREAS 226 – Shewhart control chart

Standard OREAS 226 was submitted to the laboratory seven times for gold. The gold grade of that sample was 5.62 g/t which is 3.1% higher (relative) than the expected CRM grade 5.45 g/t. The sample grade was not below or above the upper or lower action limits.

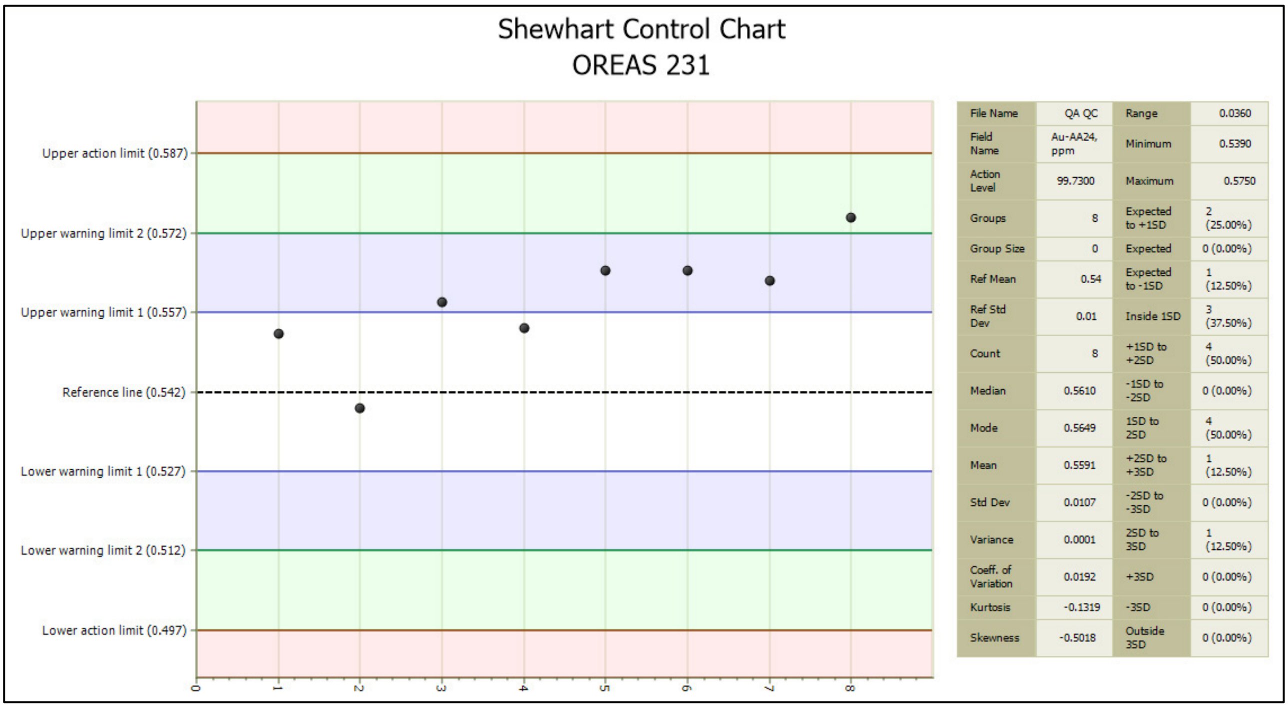


Figure 11.11: Distribution of analysis deviation for Standard OREAS 231 – Shewhart control chart

Standard OREAS 231 was submitted to the laboratory eight times for gold. The gold grade of that sample was 0.559 g/t which is 3.14% higher (relative) than the expected CRM grade 0.542 g/t. The sample grade was not below or above the upper or lower action limits.

The review of CRM results indicates generally acceptable results (Figure 11.6). Results were on average 2.3% higher on a relative basis than the grades of the CRMs. This means that the laboratory was likely to slightly underestimate gold grades. However, the overall difference between the certified and estimated grades was insignificant and within the acceptable limits.

Table 11.6: Summary of gold CRM deviation results (based on Shewhart control chart)

Parameters	CRMs							
	OREAS 228b		OREAS 216b		OREAS 226		OREAS 231	
Expected to +1SD	2	28.6%	2	33.3%	2	28.6%	2	25.0%
Expected	0	0%	1	16.7%	0	0%	0	0%
Expected to -1SD	2	28.6%	1	16.7%	0	0%	1	12.5%
Inside 1SD	4	57.1%	4	66.7%	2	28.6%	3	37.5%
+1SD to +2SD	2	28.6%	2	33.3%	4	57.1%	4	50.0%
-1SD to -2SD	0	0%	0	0%	0	0%	0	0%
1SD to 2SD	2	28.6%	2	33.3%	4	57.1%	4	50.0%
+2SD to +3SD	1	14.3%	0	0%	1	14.3%	1	12.5%
-2SD to -3SD	0	0%	0	0%	0	0%	0	0%
2SD to 3SD	1	14.3%	0	0%	1	14.3%	1	12.5%
+3SD	0	0%	0	0%	0	0%	0	0%
-3SD	0	0%	0	0%	0	0%	0	0%
Outside 3SD	0	0%	0	0%	0	0%	0	0%
Total Assays	**7**	**100%**	**6**	**100%**	**7**	**100%**	**8**	**100%**

Table 11.7: Summary of statistics for CRMs vs average grades for gold

CRM	CRM (Au, g/t)	Assay (Au, g/t)	Difference (%)	No. of assays
OREAS 228b	8.57	8.67	1.2	7
OREAS 216b	6.66	6.77	1.7	6
OREAS 226	5.45	5.62	3.1	7
OREAS 231	0.542	0.559	3.14	8
Total/Average			**2.3**	**28**

Analytical blank OREAS 21e was submitted to the laboratory 15 times for gold. All samples showed gold grades below the detection limit (<0.005 g/t).

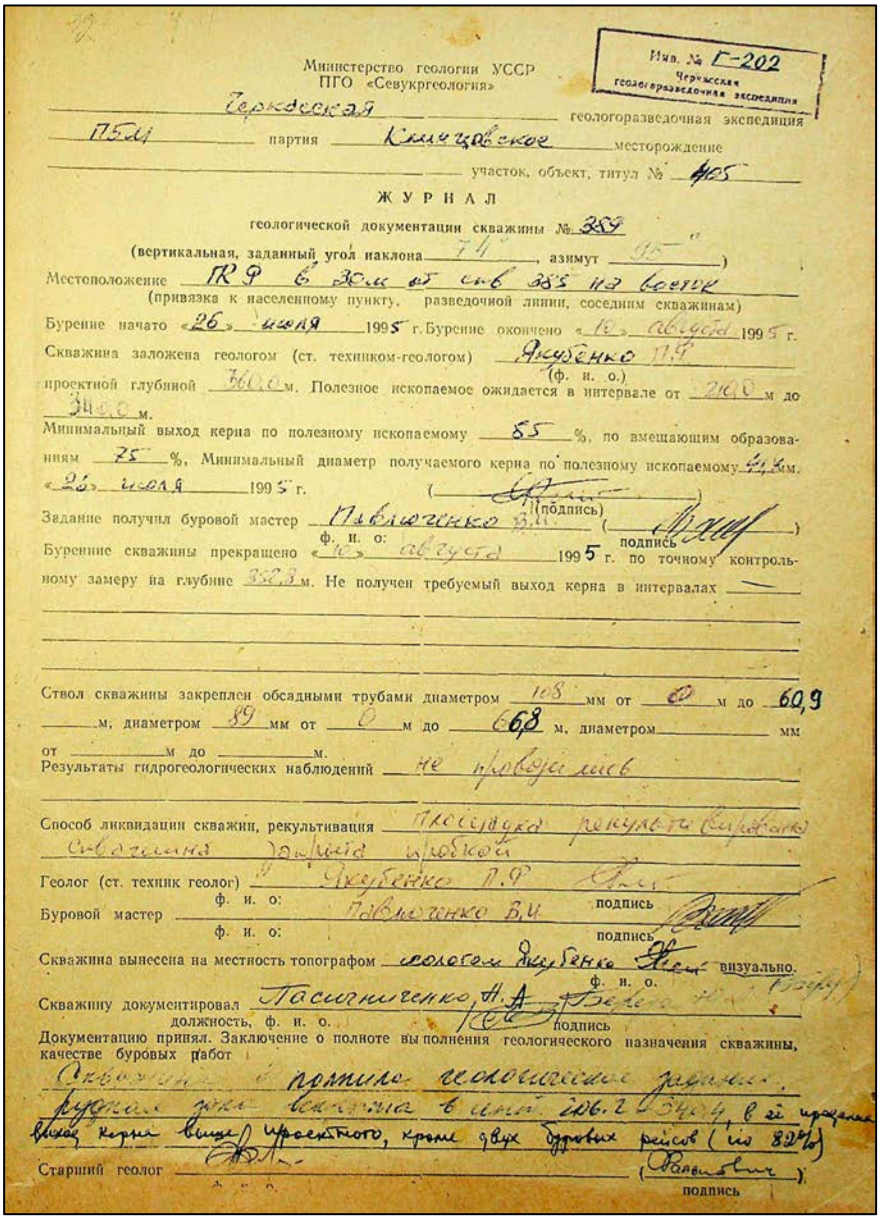
11.4 CSA Global Comments

In the opinion of the Qualified Person, the sampling preparation, security, and analytical procedures used by Lyra are consistent with generally accepted industry best practices and are therefore adequate for the purpose of Mineral Resource estimation.

12 Data Verification

Nataliia Bariatska (Qualified Person) visited the Project site on 28 April 2020 and 11 May 2020 (during the drilling) spending two days at the deposit site and exploration camp and visited the Core Storage in the city of Cherkassy (Figure 12.3) on 26 May 2020 and spending several days in Kyiv at Lyra's office.

During the visit, Nataliia Bariatska reviewed geological reports, drilling procedures and surveys, logging facilities and overall deposit geology. Geological exploration drilling procedure, core recovery methods and documentation and geophysical logging have been analysed from the provided reports. The archive of primary geological information was also provided by Lyra (Figure 12.1).



Инв. № Г-202
Черкасская геологоразведочная экспедиция

Министерство геологии УССР
ПГО «Севукргеология»

Черкасская геологоразведочная экспедиция
ПБЛ партия Клинцовское месторождение
участок, объект, титул № 405

ЖУРНАЛ

геологической документации скважины № 389

(вертикальная, заданный угол наклона 74°, азимут 95°)

Местоположение ПР 9 в 30 м от скв 385 на восток
(привязка к населенному пункту, разведочной линии, соседним скважинам)

Бурение начато «26» июля 1995 г. Бурение окончено «10» августа 1995 г.

Скважина заложена геологом (ст. техником-геологом) Якубенко П.Ф. (ф. и. о.)

проектной глубиной 360,0 м. Полезное ископаемое ожидается в интервале от 210,0 м до 340,0 м.

Минимальный выход керна по полезному ископаемому 85 %, по вмещающим образованиям 75 %, Минимальный диаметр получаемого керна по полезному ископаемому 44 мм.

«26» июля 1995 г. (подпись)

Задание получил буровой мастер Павлюченко В.И. (подпись)
ф. и. о:

Бурение скважины прекращено «10» августа 1995 г. по точному контрольному замеру на глубине 352,8 м. Не получен требуемый выход керна в интервалах —

Ствол скважины закреплен обсадными трубами диаметром 108 мм от 0 м до 60,9 м, диаметром 89 мм от 0 м до 66,8 м, диаметром мм от м до м.

Результаты гидрогеологических наблюдений не проводились

Способ ликвидации скважин, рекультивация

Геолог (ст. техник геолог) Якубенко П.Ф. подпись
ф. и. о:

Буровой мастер Павлюченко В.И. подпись
ф. и. о:

Скважина вынесена на местность топографом геологом Якубенко визуально.
ф. и. о.

Скважину документировал Пасичниченко Н.А.
должность, ф. и. о. подпись

Документацию принял. Заключение о полноте выполнения геологического назначения скважины, качестве буровых работ

Старший геолог (подпись)

Figure 12.1: Example of geological logging journal

Source: Nataliia Bariatska

During the site visit, the Qualified Person observed a number of drill collars (Figure 10.3) and existing pit (Figure 12.2), and recorded their locations with photographs and taking global positioning system (GPS) readings. The measured coordinates were compared with those reported in the provided database. The difference between the measured and reported coordinates were within the acceptable limits.

Figure 12.2: Existing pit at the Klyntsi site
Source: Nataliia Bariatska

The Qualified Person did not visit the historical laboratory, as the laboratory does not exist any longer, but visited the core storage, where historical and recent core are stored.

The Qualified Person reviewed the drill logs, cross-sections, and plan maps for the Klyntsi geological database. The author checked the analytical and geological database.

All work relating to geological exploration was found to be of a high quality. The Qualified Person is of the opinion that both the exploration holes and underground channel samples is considered suitable for Mineral Resource estimation.

Figure 12.3: Core storage in Cherkasy
Source: Nataliia Bariatska

13 Mineral Processing and Metallurgical Testing

Enrichment tests of the Klyntsi deposit mineralisation have been carried out since the stage of mining and drilling exploration. Detailed studies of bulk samples included granulometric, fractional analyses, the distribution of gold throughout minerals, the nature of intergrowths, all of which were carried out by the enrichment laboratory of the State Enterprise "Sevukrgeologiya" (Marchenko, 2000).

In October to December 1997, Laboratory of the Cherkasy geological exploration expedition processed 205.43 tons of samples by gravity concentration according to the process scheme developed by the Ukrainian Institute of Mineral Resources (Symferopil sity). Based on the results of enrichment of 17 main bulk samples, the average gold grade was 1.27 g/t (Marchenko, 2000).

In March to May 1998, 26 bulk samples with a total weight of 309.73 tons were submitted for processing tests. According to the gravity-flotation scheme proposed by the "Mekhanobrchermet" Institute (Kryvyi Rih City) (report 1991-96), 104.3 tonnes of sample were processed and analyzed for an average gold grade of 0.615 g/t.

In addition to the method of direct cyanidation of concentrates, the method of acid decomposition of sulphides and bromine leaching of gold, a method for bio-oxidation of sulphides and bioleaching of gold with biosorption, developed by the Ukrainian Institute of Mineral Resources, were also tested.

Based on the results of mineral processing and metallurgical studies of the deposit samples, the following conclusions were drawn:

- The main rock-forming minerals of host lithologies are: quartz (30–42%), feldspars (20–30%), micas (18–29%), sulphides and arsenides (1–2.6%). Minor minerals are amphiboles and pyroxenes (<3.8%), apatite (0.2–1.8%), carbonate (0.4–2.0%), graphite (<0.5%), and other minerals.
- The results of spectral and chemical analyses did not show any associated elements of economic interest. The radioactivity of the samples is 13–20 µR/h.
- Gold is coarse, with grain sizes over 0.15 mm constituting 80 % of total gold. The opening of grains by 95–98% occurs in the class of -0.315 mm, therefore, the size of sample grinding for gravity concentration is taken as -0.315 mm.

According to the results of gravity concentration, 73.6–89.7% of the sample is extracted into the gravity concentrate, and on average 83.8% has a grade of 96.3–562.6 g/t, with an average grade of 210 g/t, and in tailings of gravity gold grades are between 0.14 g/t and 1.65 g/t, up to 3.0 g/t.

The most optimal process for the Klyntsi deposit ores is the gravity-flotation scheme, which provides a total gold yield of about 91–96%.

Deleterious minerals include pyrrhotite, which reduces the rate of gold dissolution during cyanidation; arsenopyrite, which complicates the pyrometallurgical processing of gold concentrates; and graphite.

A total of 83–85% of gold is extracted from the base ore by direct cyanidation in 36 hours of processing, from gravity concentrate – up to 80.3%. The relatively low values of this indicator are due to the presence of coarse gold with low solubility. High recovery rates (up to 94–96%) are achieved by cyanidation from the tailings of gravity concentration.

The processing study of the Hubivka site samples have been carried out since 1998. Technological studies were carried out by the enrichment laboratory of the State Regional State Enterprise "Sevukrgeologiya" (Kiev) and the Central Laboratory of the State Enterprise "Centrukrgeologia". In 2007, LLC "Investment company Bekas" developed an enrichment technology for Hubivka ores using three bulk samples weighing 37.6 kg, 42.6 kg, 55.3 kg, formed from core sample rejects, with gold grades from 0.64 g/t to 4.04 g/t. The research results have shown that for the Hubivka ores, the gravity-flotation enrichment scheme is more acceptable and has through-gold recovery of 88.9%. Multistage enrichment significantly increases processing parameters (Symbilenko, 2007), which is due to the presence of gold of different sizes.

14 Mineral Resource Estimates

14.1 Software Used

The Klyntsi gold deposit Mineral Resources were estimated by the Qualified Person and other CSA Global geologists and subcontractors under Qualified Person supervision, using Micromine version 2018.8 (18.0.1008.8 x64) software.

14.2 Database Compilation

The general database was finalised on 9 October 2020. The database contains the 1988–2004 historical exploration results and the recent 2020 exploration results. A general, quantitative description of the sampling database used for the Klyntsi deposit evaluation is summarised in Section 6.4.

Lyra supplied CSA Global with the database in Micromine format. The database included collar coordinates for all drillholes and channelled trenches, downhole and channel survey data and analytical data files. A summary of drillhole data is presented in Table 14.1.

Table 14.1: Summary of supplied data

Category	Historical data			2020	Total
	Klyntsi		Hubivka		
	Holes	Adits	Holes	Holes	
Holes/channels	310	520	58	5	**893**
Metres drilled/channelled	89,557	3,638	18,767	1,182	**113,144**
Survey records	4,826	1,074	990	116	**7,006**
Assays records	62,529	3,462	15,278	685	**81,954**
Assayed intervals	62,512	3,446	15,275	685	**81,918**

The provided database also included topography surface (DTM) in Micromine format, and also all historical cross-sections georeferenced in 3D.

Import of the various data sets proceeded without error.

14.3 Data Validation

All drillhole and channel data were validated in Micromine software. Validation of the data was then completed which included checks for:

- Duplicate drillhole or channel names
- One or more drillhole or channel collar coordinates missing in the collar file
- FROM or TO missing or absent in the assay files
- FROM > TO in the assay files
- Sample intervals are not contiguous in the assay file (gaps exist between the assays)
- Sample intervals overlap in the assay files
- First sample is not equal to 0 m in the assay files
- First depth is not equal to 0 m in the survey files
- Several downhole survey records exist for the same depth
- Azimuth is not between 0 and 360° in the survey files
- Dip is not between 0 and 90° in the survey files
- Azimuth or dip is missing in survey files
- Total depth of the holes is less than the depth of the last sample
- Total length of trenches is less than the total length of all samples.

The validation exercise revealed that the easting coordinate for the channel "R.8 S" was not correct but was subsequently corrected by CSA Global after consultation with Lyra. No other errors were identified.

The topography DTM was validated to make sure that it covered the area of the modelled deposit. Drillhole collars were found to match the elevation of the topography surface.

14.4 Exploratory Data Analysis – Statistical Analysis

Preliminary statistical assessment was carried out to estimate the distribution of unrestricted gold grades and to select the cut-off grade for interpretation of mineralised bodies at the deposit.

Figure 14.1 summarise the statistical properties of the unrestricted assay database for gold grades.

The population of unrestricted gold grades log distribution with apparent mixing of grade populations with the boundary grades of about 0.07 g/t Au, 0.3 g/t Au, and 0.45 g/t Au. It was decided to use a nominal cut-off grade of 0.5 g/t Au for interpretation of mineralised bodies as this cut-off is the common one for gold deposits in similar geological settings and it was also used for the historical estimates of the deposit.

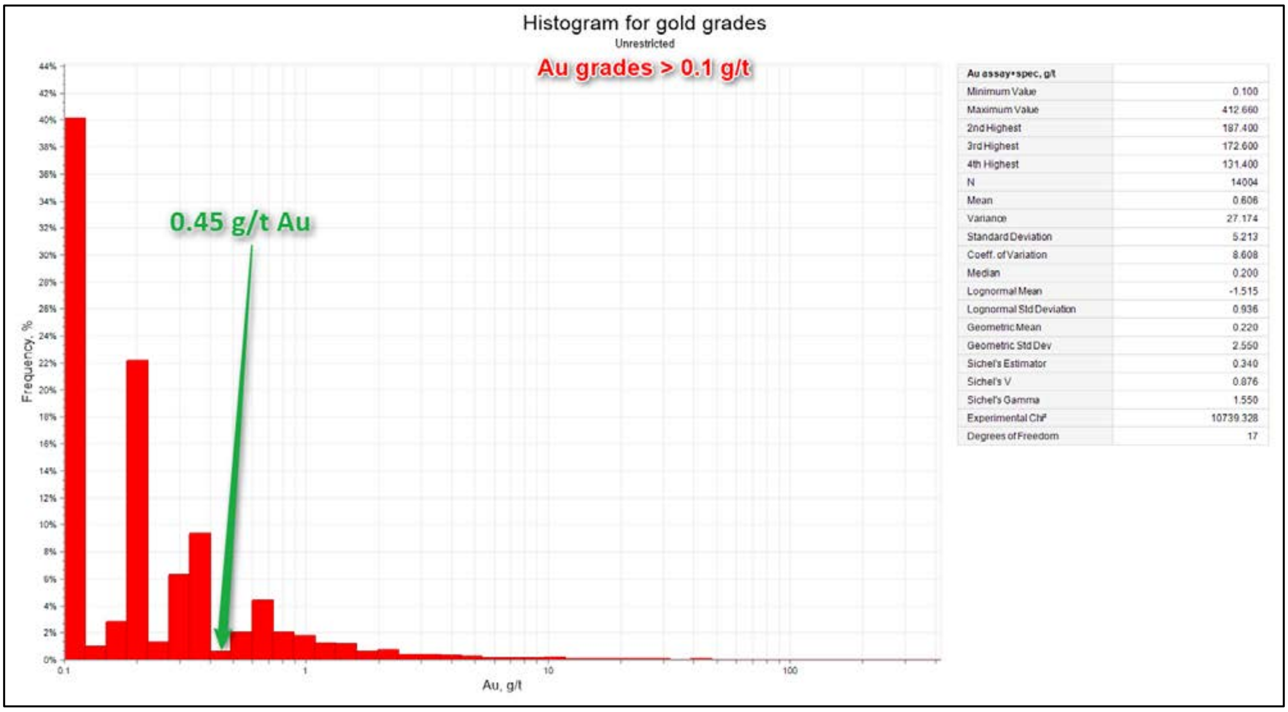


Figure 14.1: Log histogram for unrestricted gold grades

14.5 Lithological Model

No lithological model was developed as that was not required for this deposit type. Since all geological cross-sections were georeferenced in 3D environment, they were used to control the subsequent interpretation of the deposit.

14.6 Interpretation of Mineralized Bodies

Interpretation of the deposit was based on the current understanding of the deposit geology and using interpreted and georeferenced geological cross-sections. Each 50–100 m spaced cross section was displayed in Micromine software together with drillhole and channel traces colour-coded according to gold values.

Grade composites were created to assist with the interpretation and wireframing. The grade compositing process was run with the following input parameters:

- Trigger value: 0.5 g/t Au
- Minimum composite length: 1 m

- Minimum grade of final composite: 0.5 g/t Au
- Maximum consecutive length of waste: 2 m
- Minimum grade * length: 0.5 g/t*m Au.

All grade composites were displayed along the drillhole and channel traces to help with visualisation of mineralised intervals and interpretation. The grade composites were not used for any further modelling stages.

The following techniques were employed whilst interpreting the mineralisation:

- Each cross section was displayed on screen with a clipping window equal to a half distance from the adjacent sections.
- All interpreted strings were snapped to drillhole or channel intervals.
- Internal waste within the mineralised envelopes was not interpreted and modelled. It was included in the interpreted envelopes or split using bifurcation techniques where supported by surrounding drill information.
- If a mineralised envelope did not extend to the adjacent drillhole section, it was projected halfway to the next section, and terminated. The general direction and dip of the envelopes was maintained.
- Where no drillhole was present down dip, the mineralisation was extended approximately 25–50 m down dip (roughly half the drill spacing on section).
- If mineralised lens extended to the topography surface, it was extended, at the same width as the last drillhole or trench, above the surface to ensure there would not be any gaps between the lens and the topography when the block model was built.

Figure 14.2 shows an example of an interpreted cross section with mineralisation. A total number of 69 cross sections were interpreted and wireframed for the deposit.

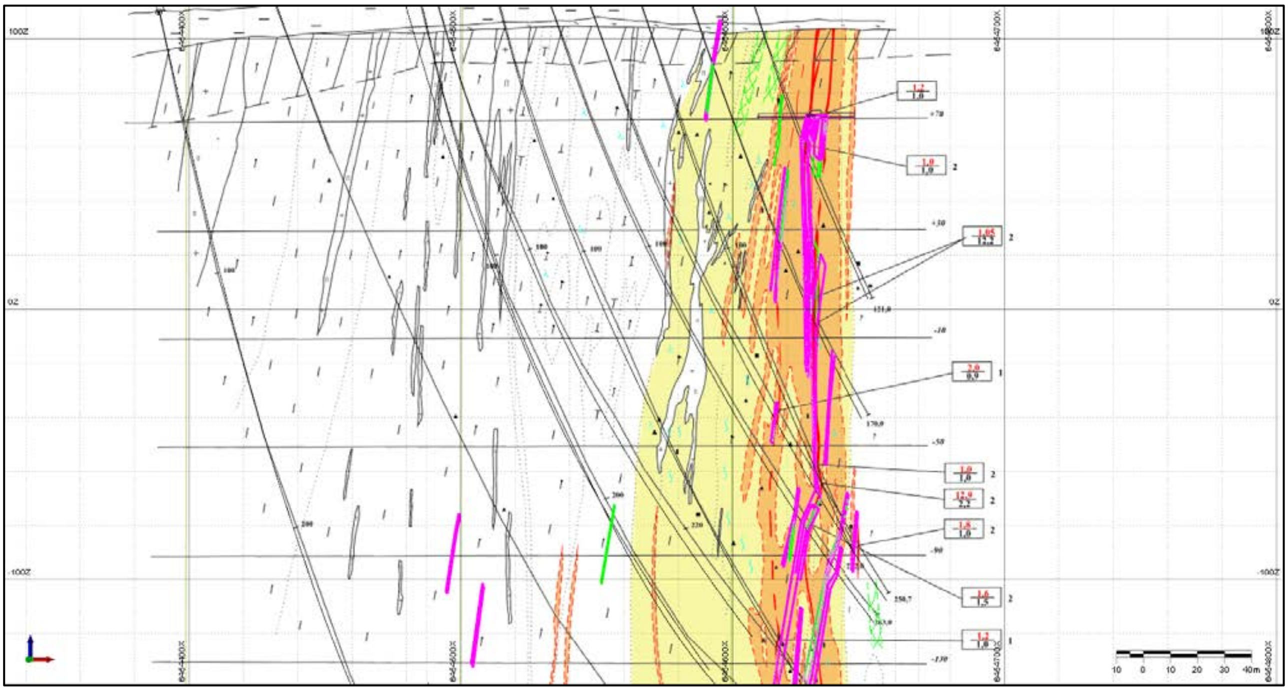


Figure 14.2: Example of interpretation of mineralisation – Section 21

14.7 Wireframing

The interpreted strings were used to generate 3D solid wireframes for the mineralised envelopes. Every section was displayed on-screen along with the closest interpreted section. If the corresponding envelope did not appear on the next cross section, the former was projected halfway to the next section, where it was terminated. A total number of 339 individual mineralised bodies were interpreted and wireframed with the total combined volume of 4,905,040 m^3 (Figure 14.3). All modelled wireframe solids were saved in the file "Ore 0.5 OK+".

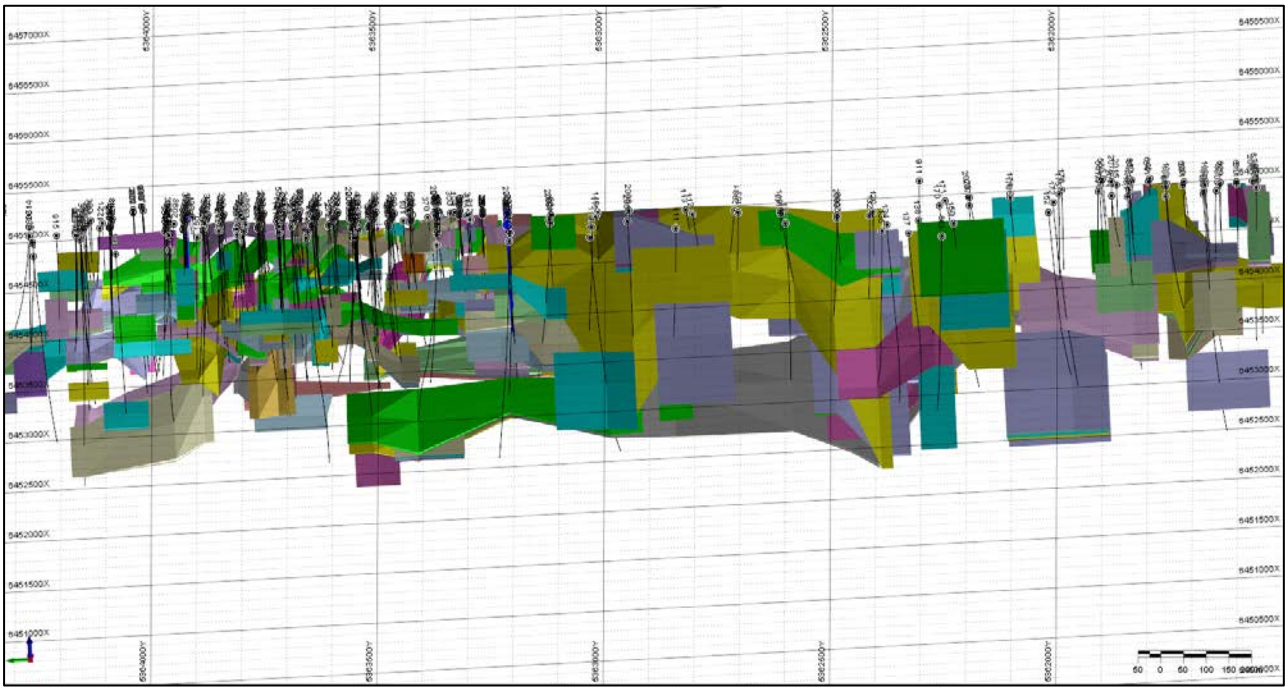


Figure 14.3: 3D view of the wireframed mineralised bodies and drillholes (Klyntsi, looking east); wireframe colours refer to wireframe object numbers

Source: CSA Global, 2020

14.8 Drillhole Data Selection and Compositing

Drillhole and channel coding is a standard procedure which ensures the correct samples are used in classical statistical and geostatistical analyses, and grade interpolation. For this purpose, solid wireframes for each mineralised envelope were used to select drillhole and channel samples. Samples were then selected for individual mineralised envelope and flagged using Micromine software.

Mineralisation wireframes were used to select drillhole and trench samples, and the data was assigned a code in the field "ORE" and also each wireframe name in the field "WF". A summary of the codes used to distinguish the data during geostatistical analysis and estimation is shown in Table 14.2.

Table 14.2: Domain field and description

Field	Flag	Description
ORE	1	Within mineralised wireframe
	0	Outside of mineralised wireframes
WF	Name	Wireframe name
ZONE	Klyntsi or Hubivka	Deposit zone name

Visual validation of the flagged samples was carried out to ensure the correct samples were selected by the wireframes.

Classical statistical analysis was then repeated for all grades within the mineralised envelopes. The top cut grades were applied to the samples before the compositing process.

Basic statistical parameters were obtained for the composited data to make sure that compositing has not distorted the statistics.

Based on the drillhole and channel data coding, samples from within the resource wireframes were used to conduct a sample length analysis. The majority of raw sample intervals are one metre in length (average

0.88 m) as shown in Figure 14.4. Based on the review, a 1 m composite length was selected. The selected samples within each mineralised body were separately composited over 1 m intervals, starting at the drillhole or channel collar and progressing downhole. Compositing was stopped and restarted at all boundaries between mineralised bodies. If a gap between samples of less than 0.1 m occurred, it was included in the sample composite. If the gap was longer than 0.1 m, the composite was stopped, and another composite was started from the next sample.

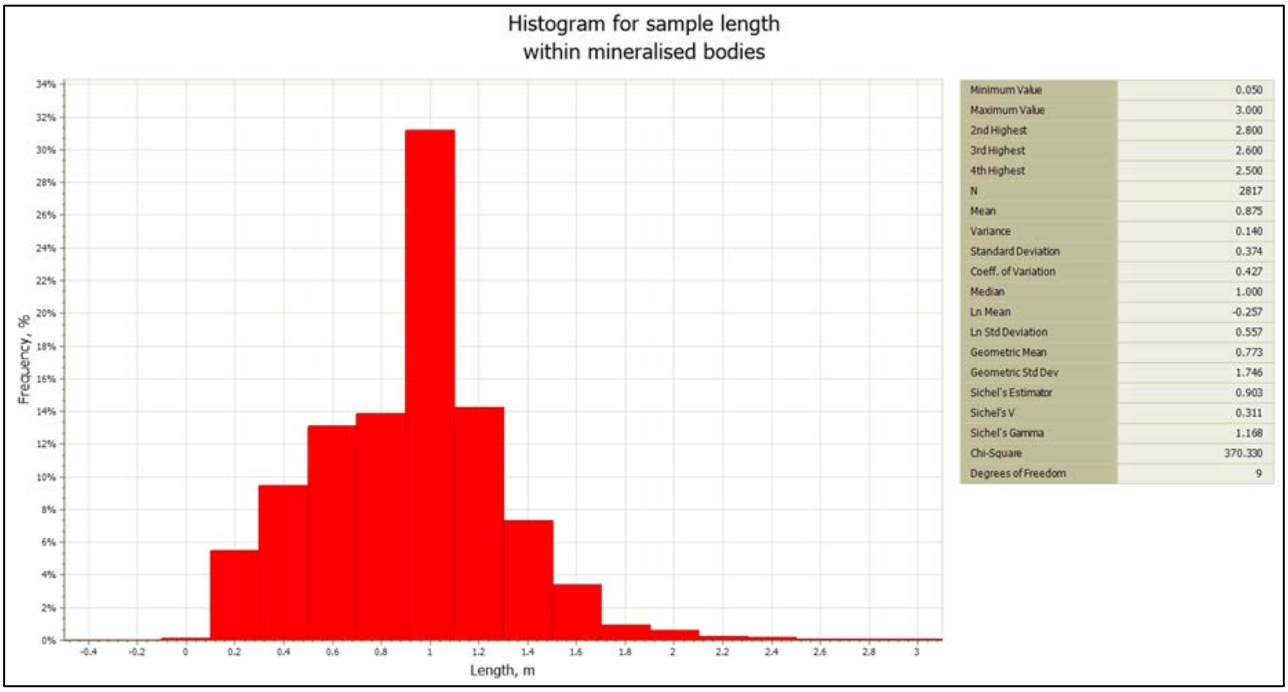


Figure 14.4: Histogram of sample lengths (Klyntsi and Hubivka sample data)

14.9 Statistical Analysis

Once the mineralised bodies for the deposit were interpreted and wireframed, classical statistical analysis was repeated for the sample and sample composites within the interpreted envelopes to meet the following objectives:

- To assess the mixing effect of grade populations for gold grades
- To assess the necessity of separation of grade populations if more than one population was observed
- To determine the top cut grade for gold.

The statistical parameters gold grades are shown Table 14.3 (without applied top cuts).

The coefficients of variation for gold grades is above 4 which indicates that it might be difficult to model robust semi-variograms and that top cutting is required.

Table 14.3: Classical statistics for gold (weighted on sample length)

Element	Minimum	Maximum	No. of samples	Mean	Variance	Standard deviation	Coefficient of variation	Median
Unconstrained assays								
Au, g/t	0	412.66	81,918	0.08	3.4	1.8	19.9	0.005
Assays within wireframes								
Au, g/t	0	412.66	2,729	2.25	138.2	11.8	5.0	0.7
1 m composites								
Au, g/t	0	412.66	2,781	2.25	131.7	11.5	4.8	0.8

The population of gold grades restricted by mineralisation wireframes approaches lognormal distribution with no apparent mixing of grade populations (Figure 14.5 and Figure 14.6).

14.10 Treatment of Outliers

A review of grade outliers was undertaken to ensure that extreme grades are treated appropriately during grade interpolation. Although extreme grade outliers within the grade populations of variables are real, they are potentially not representative of the volume they inform during estimation. If these values are not cut, they have the potential to result in significant grade over-estimation on a local basis.

The input sample file was flagged by the modelled mineralised bodies. The lognormal histogram and cumulative probability plot were analysed to determine the top cut grade to be applied to the input analytical data before sample compositing and geostatistical analysis.

Figure 14.5 and Figure 14.6 show statistical properties of the assay database for gold restricted within the interpreted and modelled mineralised bodies separately for the Klyntsi and Hubivka deposit zones. The histograms do not demonstrate any apparent mixing of grade populations, which means that OK interpolation method should be appropriate. Based on the analysis of the histograms, top cuts of 61 g/t and 41 g/t was selected for gold grades for the Klyntsi and Hubivka zones, respectively. These top cuts were applied to all gold grades before length compositing process.

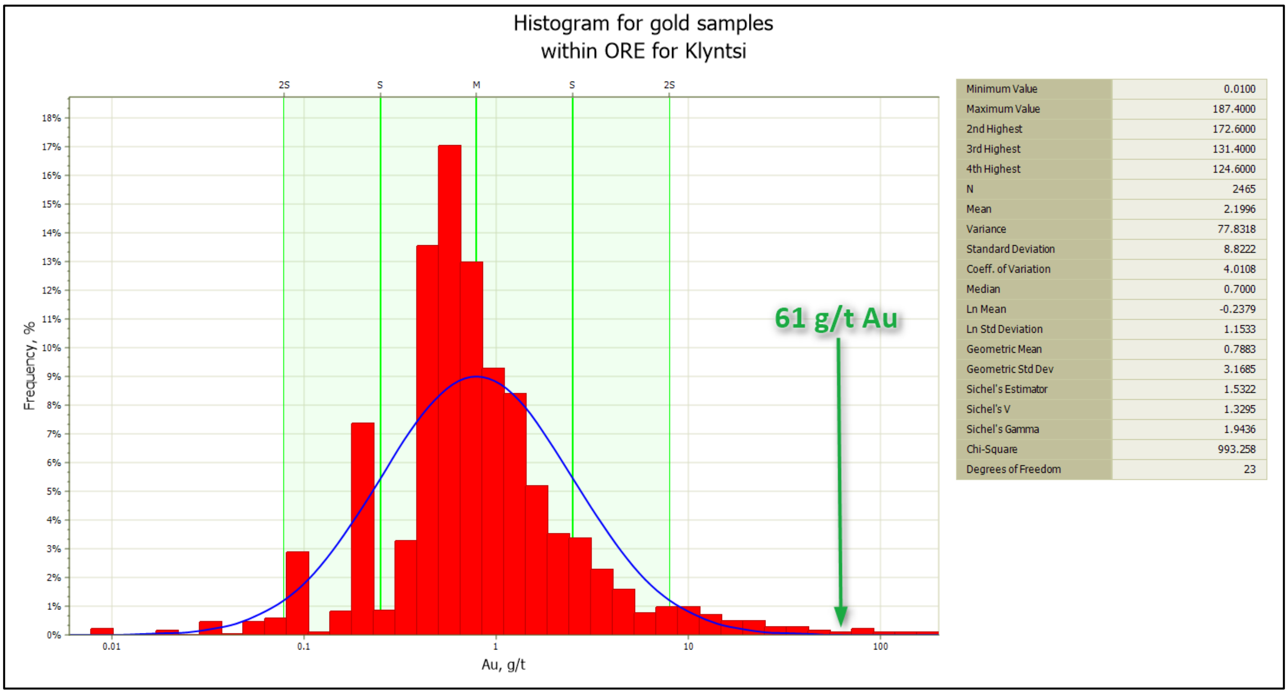


Figure 14.5: Histogram for gold grades within wireframe models (Klyntsi zone)

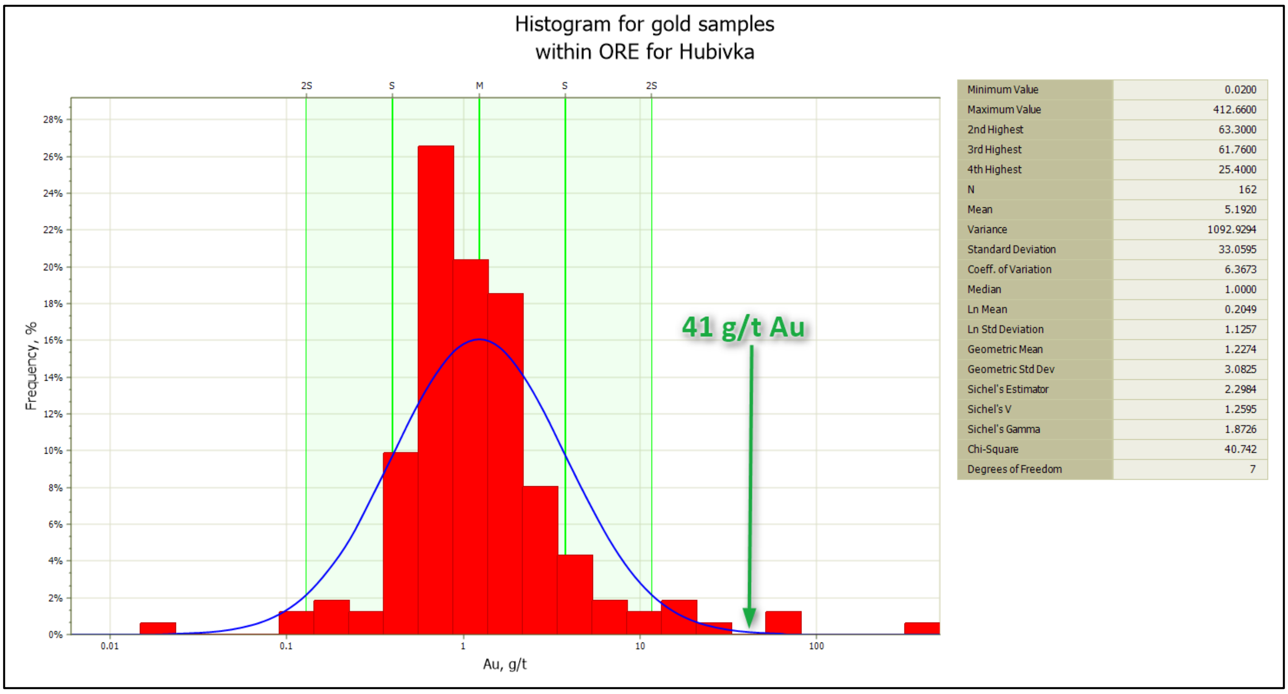


Figure 14.6: Histogram for gold grades within wireframe models (Hubivka zone)

14.11 Transformation of Coordinated and Unfolding

CSA Global decided to flatten each lens before the geostatistical analysis and grade interpolation. The flattening is required for accurate grade interpolation in each lens. The data flattening principle is demonstrated schematically in the figure below (Figure 14.7).

CSA Global performed transformation of the coordinates of the block models and composited grade intervals individually for each lens prior to the geostatistical analysis and grade interpolation. This was done to flatten the model to provide a constant orientation of mineralisation for grade interpolation. Since the geological orientation of the mineralised bodies was almost vertical with the strike from south to north, the flattening process was completed relative to the vertical south-north (SN) plane.

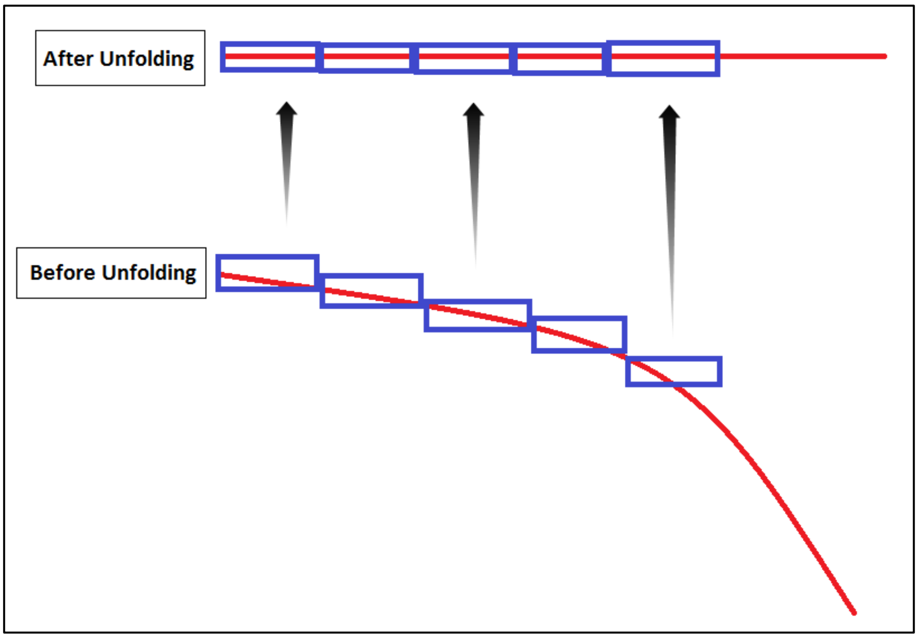


Figure 14.7: The principal of unfolding/flattening

14.12 Geostatistical Analysis

The purpose of geostatistical analysis is to generate a series of semi-variograms that can be used as the input weighting mechanism for kriging algorithms. The semi-variogram ranges determined from this analysis contribute heavily to the determination of the search neighbourhood dimensions.

All variograms were calculated and modelled for the composited sample file constrained by the corresponding mineralised envelopes for gold and with top cut applied. It was found that absolute semi-variograms were difficult to model, and therefore, relative semi-variograms were modelled for gold.

Downhole experimental variogram was modelled to estimate the expected nugget effect. The modelled nugget effect was then used when directional semi-variograms were modelled.

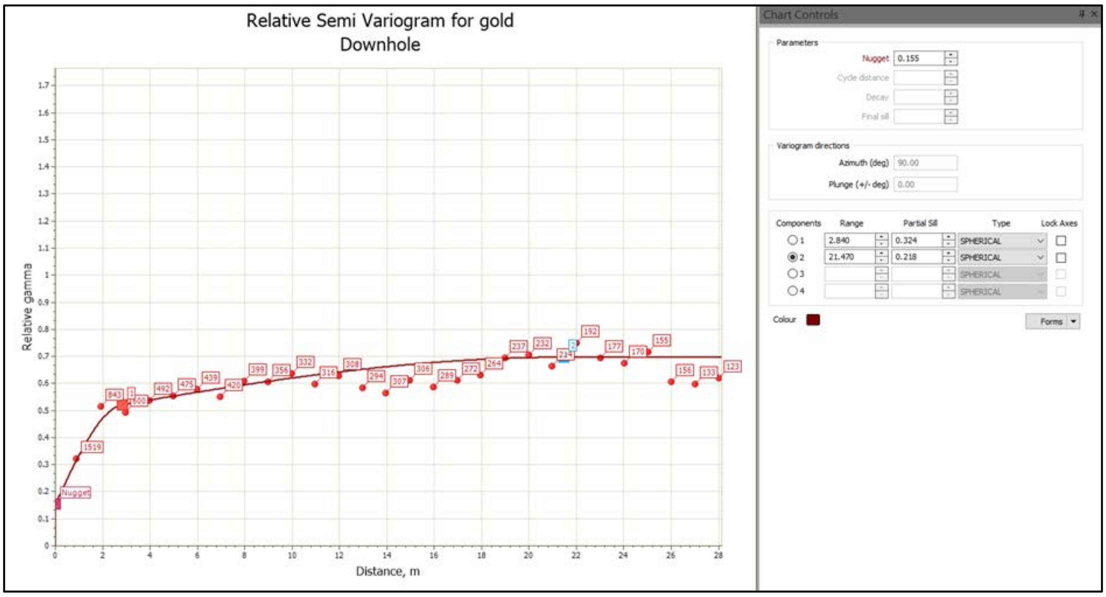
The main axes for semi-variogram modelling were selected as orthogonal since all the mineralised bodies were flattened relative to the Y coordinate along the vertical SN plane. Therefore, the azimuth of the main direction was 0° with no plunge. The azimuth of the second direction was vertical and the third axis was defaulted as perpendicular to the first two axes – an azimuth of 90° with no dipping.

All modelled experimental semi-variograms were spherical and had two nested structures. The parameters of the modelled semi-variograms are listed in Table 14.4 and shown in Figure 14.8.

The semi-variogram ranges were used to determine the search radii for gold, with 60 m for the main and vertical directions and 4 m for the third direction. The ranges were used in the search ellipse and grade interpolation process. Generally, all main semi-variogram ranges were greater than 50 m which supports an Indicated classification for blocks within a 50 m x 50 m exploration density grid.

Table 14.4: Semi-variogram characteristics

Type	Axis	Azimuth	Dip	Nugget	Partial sills	Ranges
Relative spherical	Main	0	0	0.155	0.391, 0.208	3.9, 60.1
	Second	90	90			3.9, 60.1
	Third	270	0			2.84, 4.11



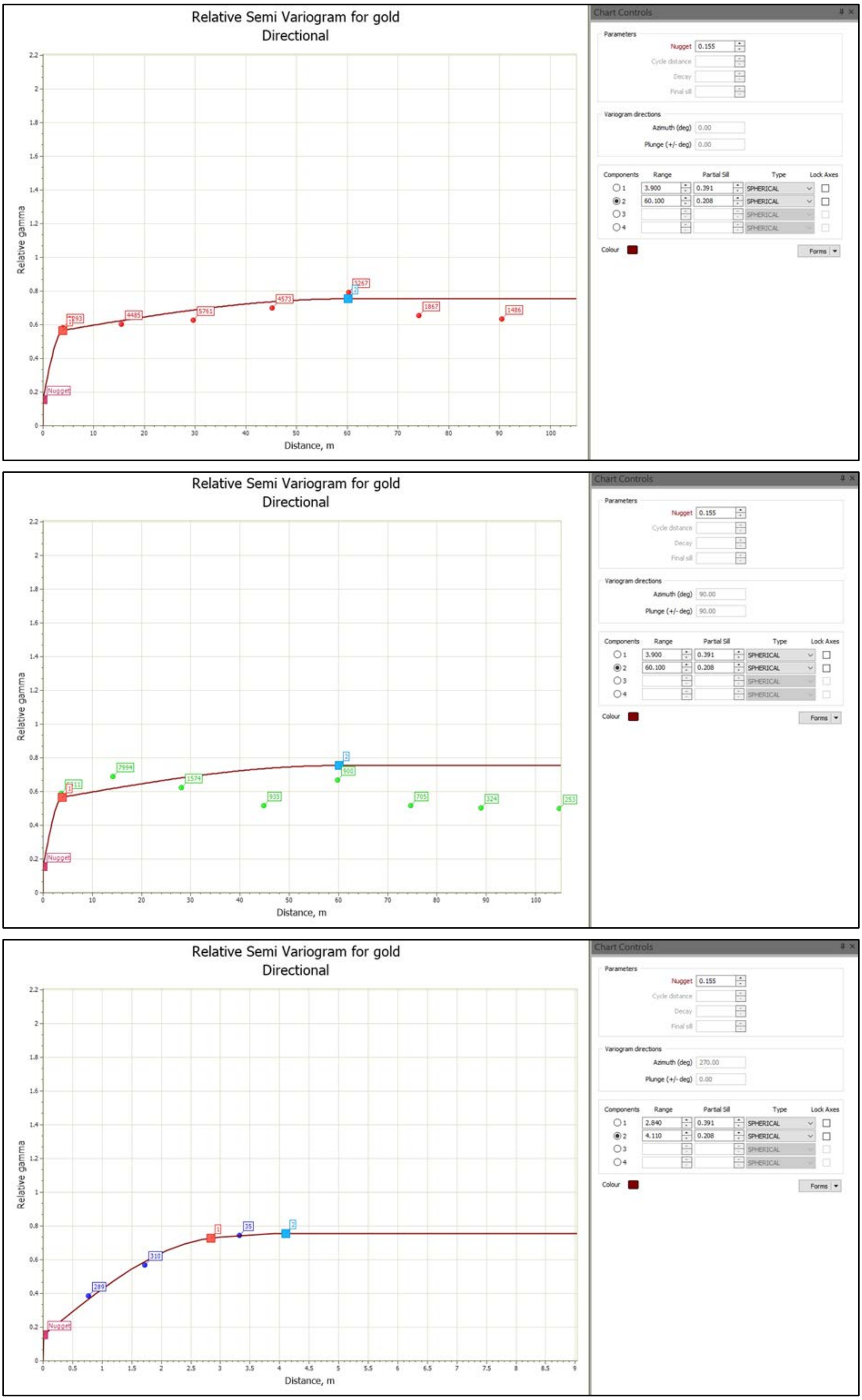


Figure 14.8: Downhole and directional semi-variogram models for gold

14.13 Block Modelling

A block model ("Model_OK.DAT") was created to encompass the full extent of the Klyntsi deposit. Block model parameters are shown in Table 14.5 and block model attributes are shown in Table 14.6.

Table 14.5: Block model parameters

Axis	Extent (m)		Block size (m)	Maximum sub-celling (m)	No. of parent blocks
	Minimum	Maximum			
Easting	6,453,597.5	6,455,002.5	5	0.5	281
Northing	5,356,995	5,364,505	10	1	751
RL	-505	155	10	1	66

Table 14.6: Block model attributes

Field	Description
X	Easting, m
Y	Northing, m
Z	RL
_X	Easting block size, m
_Y	Northing block size, m
_Z	RL block size, m
DENSITY	Density values, t/m^3
CLASS	Resource categories: 2 - Indicated, 3 - Inferred
OXIDE	Code for oxide zone: 0 – fresh, 1 – oxide zone
WF	Mineralised body name
ZONE	Klyntsi or Hubivka – deposit zones
AU_CUT	Au grade field, g/t

The block model used a parent cell size of 5 m (east) x 10 m (north) x 10 m (RL) with sub-celling to 0.5 m (east) x 1 m (north) x 1 m (RL) to maintain the resolution of the mineralised bodies. The northing and easting parent cell size was selected based on approximately one quarter of the densest drill section spacing at the deposit. The model cell dimensions were also selected to provide sufficient resolution to the block model in all directions.

An empty block model was created within the closed wireframe models for the mineralised bodies. The model was also coded according to the oxidation zone, which is almost not developed at the deposit. Each modelled mineralised body was assigned a unique code in the model file. The block model was then restricted below the topography surface, with all model cells above the surface deleted from the model file. The initial filling with a corresponding parent cell size was followed by sub-celling where necessary. The sub-celling occurred near the boundaries of the mineralised bodies or where models were truncated with the topographic surface of fault planes. The sub-cells were optimised in the models where possible to form larger cells.

14.14 Grade Interpolation

Gold grade values were interpolated into the empty block models separately for each modelled mineralised body of the deposit using the OK method, which was supported by the inverse distance weighting (IDW) interpolation method with the powers of 2 and 3. The IDW method was used as one of the model validation tools.

The gold grades were interpolated into the empty block model using composited drill samples with the top cut applied. The OK process was performed at different search radii until all cells were interpolated. The search radii were determined based on the parameters of the modelled semi-variogram ranges. The first radii were equal to one-third of the semi-variogram long ranges in all directions (20 m x 20 m x 1.3 m). The second search radii were equal to two-thirds of the semi-variogram long ranges in all directions (40 m x 40 m x 2.7 m), the third run employed full semi-variogram ranges in all directions (60 m x 60 m x 4 m), and all subsequent runs were incremented by full semi-variogram ranges in all direction until all model cells were informed with gold grades.

The orientation of the search ellipse was determined by the model and sample data flattening process; thus, it was orthogonal: azimuth = 0°, plunge = 0°, dip = 90°.

The blocks were interpolated using only assay composites restricted by the wireframe models which belonged to a corresponding mineralised body of the deposit. When model cells were estimated using radii not exceeding the full semi-variogram ranges, a restriction of at least three samples from at least two drillholes or channels was applied to increase the reliability of the estimates. The general definition of the interpolation strategy is presented in Table 14.7.

Table 14.7: Interpolation parameters

Interpolation method	OK			
Search radii	Less or equal to one-third of semi-variogram ranges	Less or equal to two-thirds of semi-variogram ranges	Less of equal to semi-variogram ranges	Greater than semi-variogram ranges
Minimum no. of samples	3	3	3	1
Maximum no. of samples	16	16	16	16
Minimum no. of drillholes or channels	2	2	2	1

De-clustering of sample data was performed during the interpolation process by using four sectors within the search neighbourhood. Each sector was restricted to a maximum of four points for all the deposits, and the search neighbourhood was restricted to an overall minimum of three points for the interpolation runs using radii within the semi-variogram long ranges. The maximum combined number of samples allowable for the interpolation was therefore 16. Change of support was honoured by discretising to 5-points x 5-points x 5-point kriged estimates. These point estimates are simple averages of the block estimates.

14.15 Bulk Density Values

A total number of 1,268 measurements of bulk density was completed at the deposit (Section 11.2).

The average bulk density values measured in core were 2.73 t/m^3 and 2.70 t/m^3 for the Klyntsi and Hubivka deposit zones, respectively.

These values were directly assigned to the corresponding cells in the block model and employed in the MRE.

14.16 Mineral Resource Classification Strategy

The Mineral Resource has been classified based on the guidelines specified in CIM Definition Standards for Mineral Resources and Mineral Reserves, (CIM Council, 2014). The classification level is based upon an assessment of geological understanding of the deposit, geological and mineralisation continuity, drillhole spacing, quality control results, search and interpolation parameters and an analysis of available density information. The specific requirements concerning the minimum number of samples and minimum number of drillholes and channels used for grade interpolation for each block were applied and are tabulated in Table 14.7.

The block model was displayed in Micromine's Vizex environment and colour coded according to interpolation runs. After visual inspection, it was decided that the classification of Mineral Resources could be based on exploration drillhole density and interpolation runs which were based on modelled semi-variogram ranges. The limits of Indicated category were interpreted and wireframed, and the block model was the coded by the created wireframe.

The following approach was adopted:

- Measured Resources: Not assigned.

- Indicated Resources: It was decided that Indicated Mineral Resources be assigned to blocks with the drill density not exceeding approximately 50 m x 50 m with at least two mineralisation intersections on exploration lines. Geological structures are relatively well understood and interpreted.
- Inferred Resources: Inferred Mineral Resources are model blocks lying outside the Indicated wireframes, which still display reasonable strike continuity and down dip extension, based on the current drillhole and trench intersections.

The resource classification applied is illustrated in Figure 14.9 (green – Indicated blocks, grey – Inferred blocks).

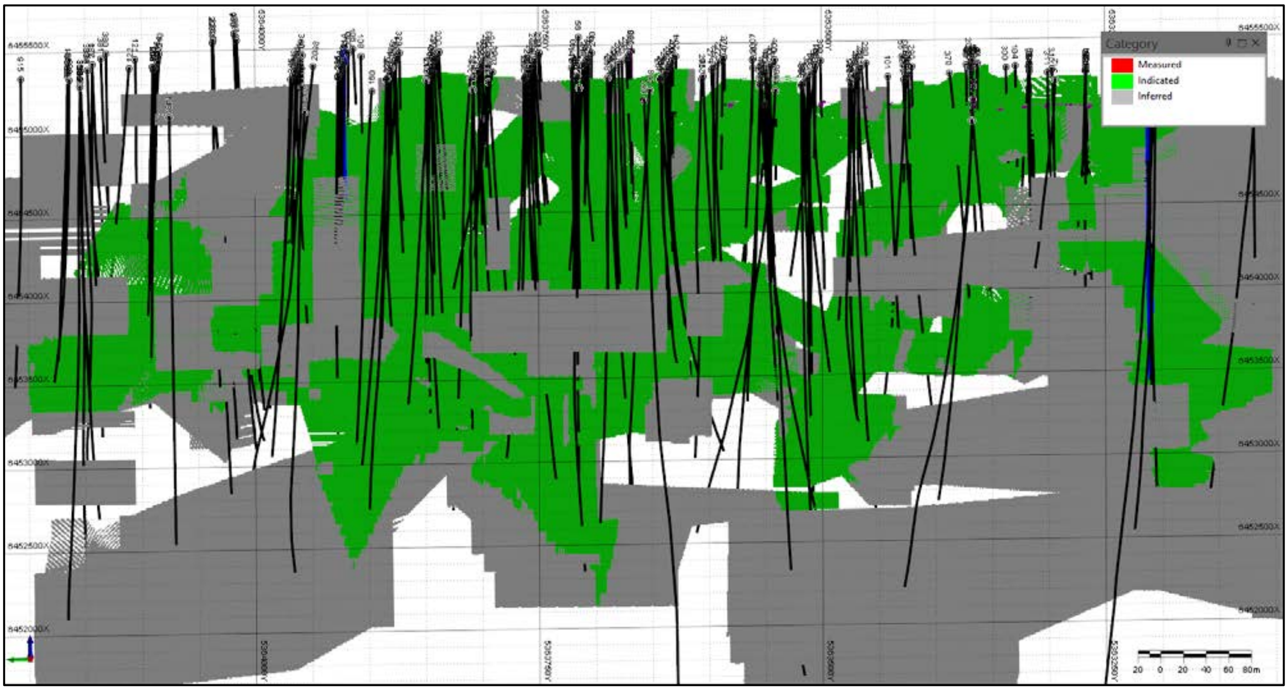


Figure 14.9: Mineral Resource classification, view to east
Source: CSA Global, 2020

14.17 Block Model Validation

Validation of the grade estimates was completed by:

- Visual checks on screen in cross-section and plan view to ensure that block model grades honour the grade of sample composites
- Statistical comparison of sample and block grades
- Alternative interpolation using IDW methods
- Generation of swath plots to compare input and output grades in a semi-local sense, by easting, northing and elevation.

14.17.1 Visual Validation

The block model with interpolated grades was displayed on screen along with the sample grades and colour coded. Visual validation demonstrated reasonably close correlation between modelled grades and composited samples (Figure 14.10).

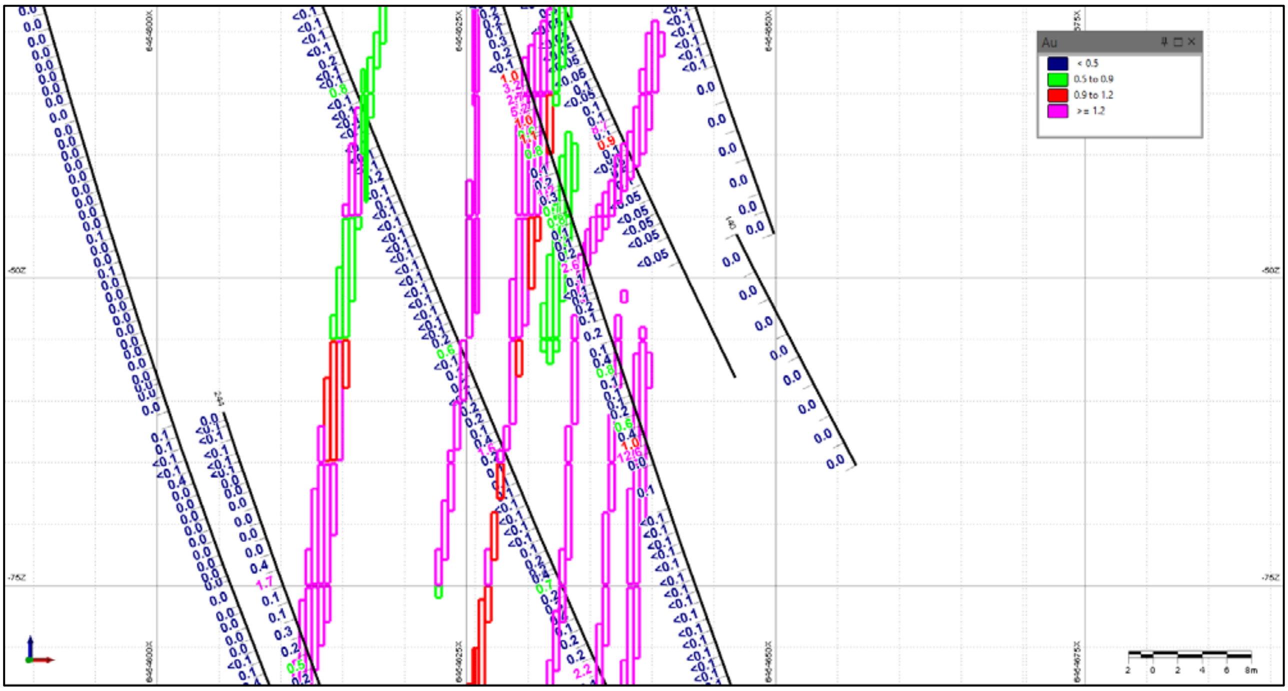


Figure 14.10: Visual comparison of gold grades in the model vs assays (Section 18, looking north)
Source: CSA Global, 2020

14.17.2 Statistical Validation

The average gold grades in the model were compared with the average grades in the composited sample files. It was found that the total modelled average grades were 26% relatively lower than the grades in the composites (2.25 g/t Au in the composite file vs 1.66 g/t Au in the block model), or 8% lower (relative) in the model for the material which was categorised as Indicated (2.25 g/t Au in the composite file vs 2.07 g/t Au in the block model). This is believed to be natural result due to the data clustering and grades smoothing by all interpolators.

14.17.3 Comparison with Alternative Interpolation Methods

All grades were also interpolated using the IDW method with the power of two and three and then compared to the grades estimated by OK method. A comparison of the grades and metal tonnage using OK vs IDW method at various cut-off grades is given in Table 14.8. Kriging returned generally more conservative grades and lower metal, but overall, the grades differ within acceptable limits.

Table 14.8: Comparison of grades between OK and IDW methods

Cut-off (Au, g/t)	OK model		IDW2 model			IDW3 model			Difference (%)			
	Au		Tonnes (Mt)	Au		Tonnes (Mt)	Au		IDW2 vs OK		IDW3 vs OK	
	g/t	koz		g/t	koz		g/t	koz	Grades	Metal	Grades	Metal
0	1.66	707	13.26	1.66	708	13.26	1.67	710	0.2	0.2	0.4	0.4
0.1	1.66	707	13.25	1.66	708	13.25	1.67	710	0.2	0.2	0.5	0.4
0.2	1.66	707	13.25	1.66	708	13.25	1.67	710	0.2	0.2	0.5	0.4
0.3	1.66	707	13.23	1.67	708	13.22	1.67	710	0.3	0.2	0.6	0.4
0.4	1.67	706	13.18	1.67	708	13.18	1.67	710	0.2	0.2	0.5	0.4
0.5	1.67	705	13.10	1.68	706	13.08	1.68	708	0.2	0.2	0.6	0.4
0.6	1.76	688	11.89	1.79	685	11.80	1.81	686	1.7	-0.4	2.5	-0.4
0.7	2.01	645	9.61	2.07	639	9.48	2.10	639	3.1	-0.9	4.5	-1.0
0.8	2.20	614	8.30	2.28	608	8.14	2.32	607	3.7	-1.0	5.6	-1.2
0.9	2.41	583	7.10	2.52	576	6.94	2.57	575	4.7	-1.2	6.9	-1.4

Cut-off (Au, g/t)	OK model		IDW2 model			IDW3 model			Difference (%)			
	Au		Tonnes (Mt)	Au		Tonnes (Mt)	Au		IDW2 vs OK		IDW3 vs OK	
	g/t	koz		g/t	koz		g/t	koz	Grades	Metal	Grades	Metal
1	2.56	561	6.45	2.68	556	6.31	2.74	555	4.5	-0.9	6.8	-1.0
1.1	2.77	534	5.54	2.95	526	5.42	3.02	526	6.6	-1.7	9.1	-1.6
1.2	2.92	515	5.06	3.12	508	4.95	3.19	509	6.8	-1.4	9.3	-1.3
1.3	3.15	489	4.67	3.28	492	4.57	3.36	493	4.1	0.6	6.5	0.9
1.4	3.39	465	4.07	3.57	466	4.00	3.64	469	5.2	0.3	7.4	0.9
1.5	3.66	441	3.51	3.90	440	3.46	3.99	444	6.7	-0.1	9.1	0.6
1.6	3.95	419	3.10	4.22	420	3.06	4.31	424	6.8	0.3	9.2	1.2
1.7	4.19	402	2.83	4.46	406	2.78	4.58	409	6.4	0.9	9.1	1.8
1.8	4.39	390	2.61	4.69	394	2.55	4.83	397	7.0	0.9	10.0	1.7
1.9	4.69	373	2.37	4.98	379	2.31	5.14	382	6.3	1.8	9.6	2.6
2	4.93	360	2.19	5.23	368	2.15	5.39	372	6.1	2.3	9.3	3.3
2.2	5.36	340	1.84	5.84	345	1.80	6.03	349	8.9	1.3	12.5	2.5
2.4	5.75	324	1.64	6.28	330	1.60	6.50	334	9.1	1.9	13.1	3.1
2.6	6.10	310	1.50	6.63	319	1.46	6.87	323	8.7	2.7	12.6	4.2
2.8	6.37	300	1.40	6.91	310	1.37	7.16	315	8.5	3.3	12.3	5.0
3	6.80	285	1.30	7.21	301	1.29	7.43	308	6.0	5.5	9.2	7.8
3.5	7.72	258	1.07	8.07	278	1.07	8.31	285	4.6	7.6	7.7	10.4
4	8.54	237	0.92	8.75	260	0.92	9.03	267	2.5	9.9	5.7	13.0

14.17.4 Swath Plots

Swath plots were generated for each 40 m bench and each 20 m vertical section in east-west and 40 m in north-south directions. The results of this validation are shown from Figure 14.11 to Figure 14.13 which demonstrate close correlation between the modelled gold grades and sample composites. It is apparent that the model has smoothed the composite grades, which is to be expected due to the volume variance effect.

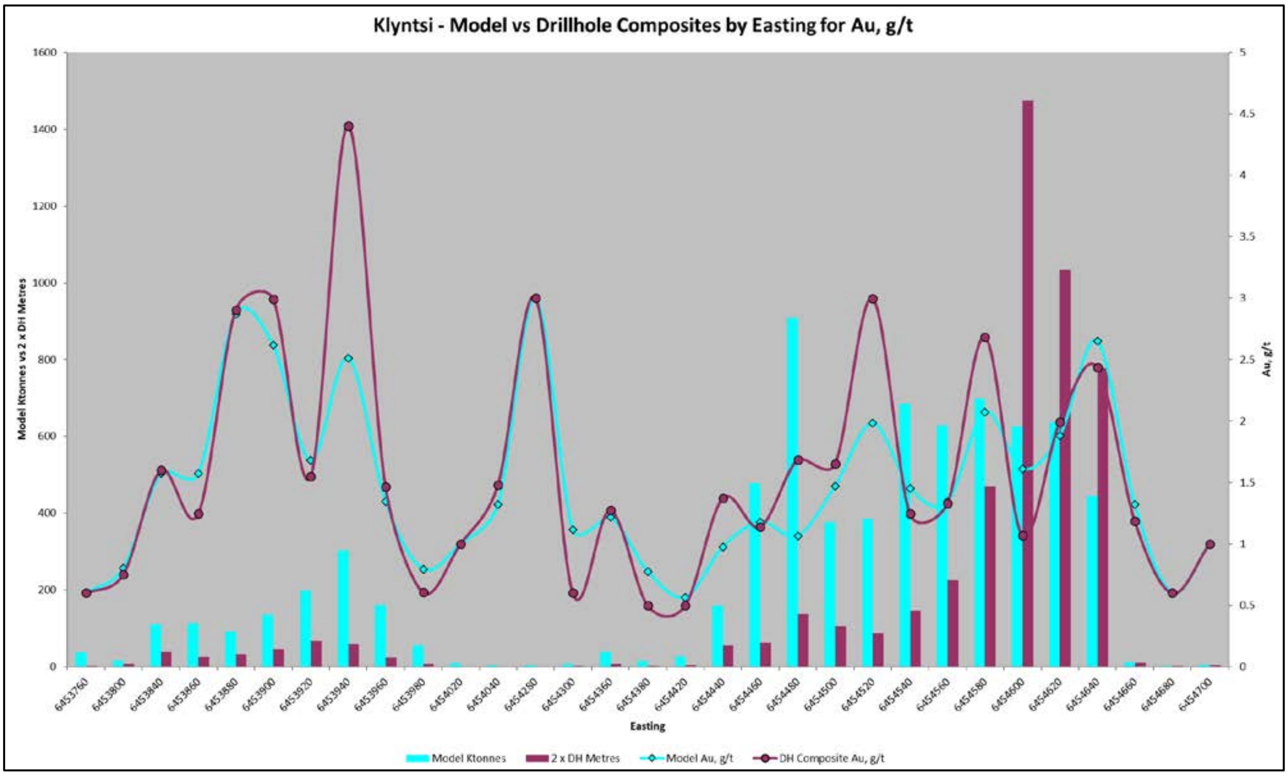


Figure 14.11: Swath plot for 50 m easting sections

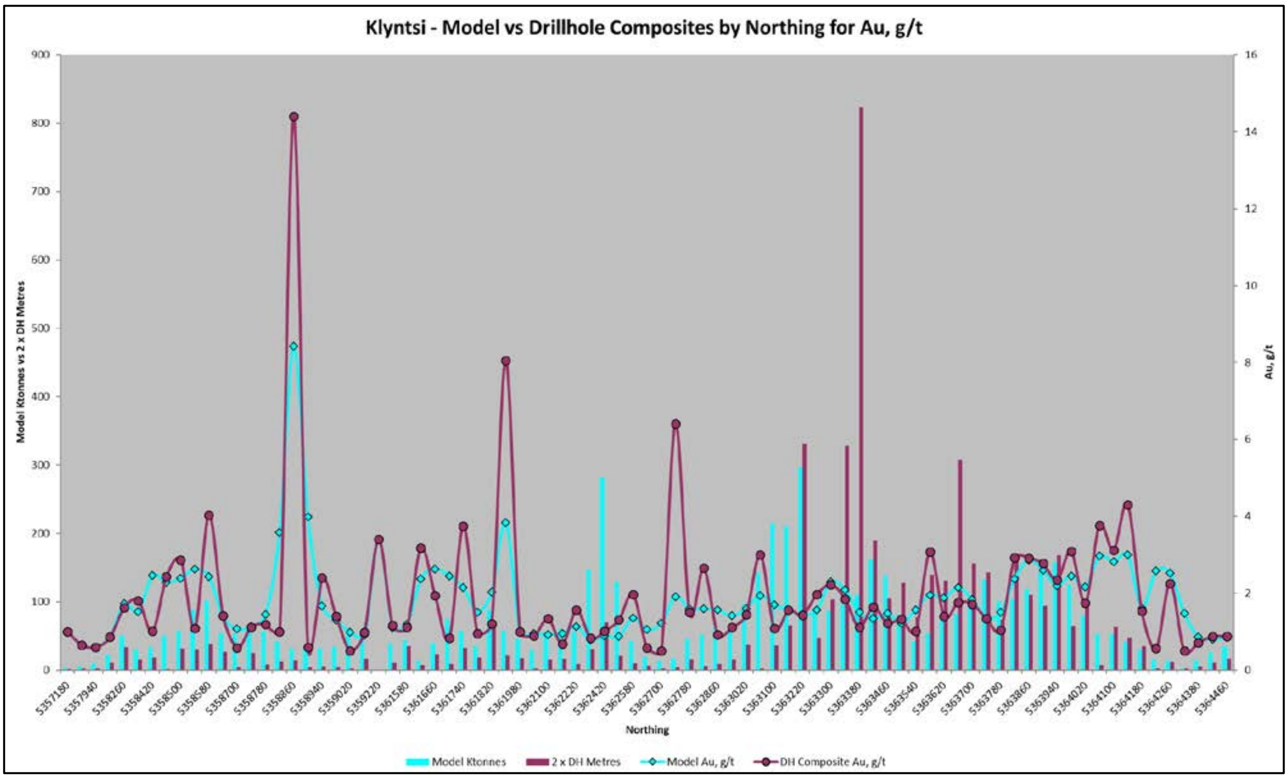


Figure 14.12: *Swath plot for 50 m northing sections*

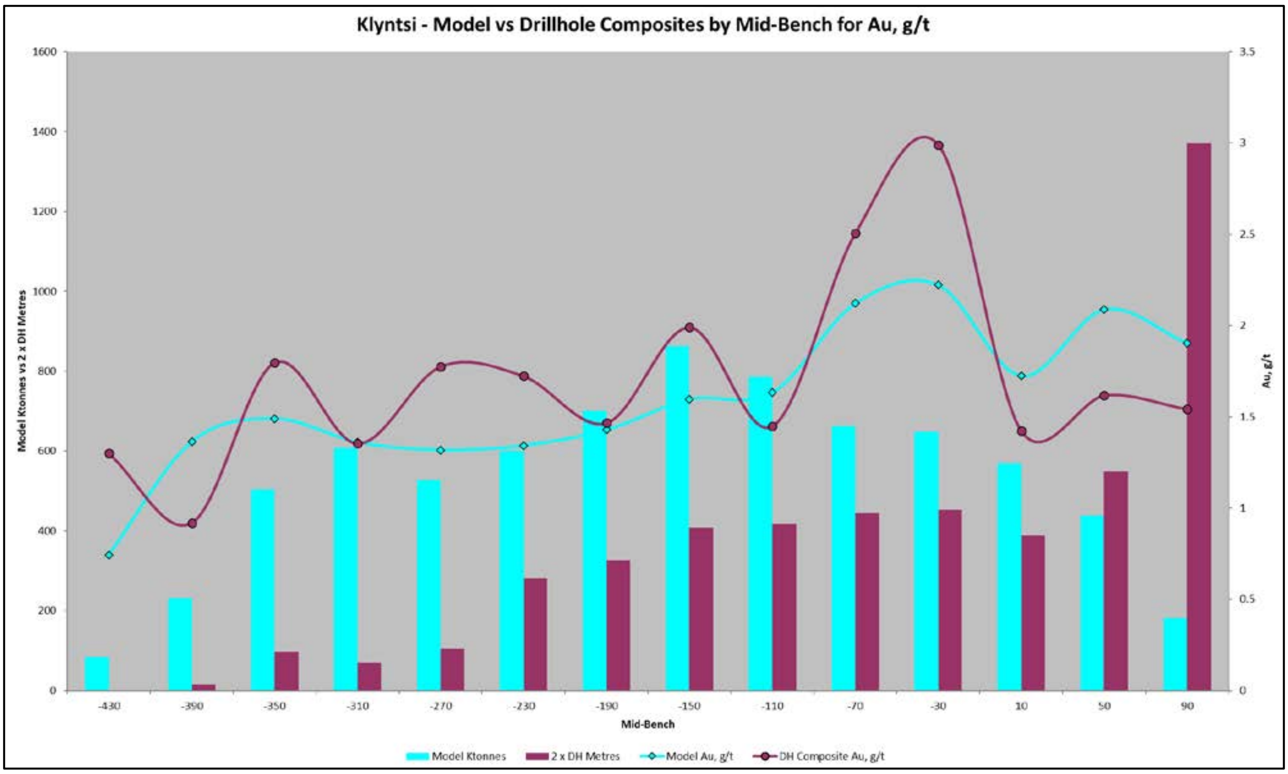


Figure 14.13: *Swath plot for 20 m flitches*

14.18 Reasonable Prospects of Economic Extraction

CIM Definition Standards for Mineral Resources and Mineral Reserves, (CIM Council, 2014) require that Mineral Resources have “reasonable prospects for economic extraction”. This generally implies that the quantity and grade estimates meet certain economic thresholds and that the Mineral Resources are reported at an appropriate cut-off grade taking into account possible extraction scenarios and processing recoveries.

The Qualified Person deems that there are reasonable prospects for eventual economic extraction on the following basis:

- It is expected that most of the deposit will be mined using underground methods, though some upper parts of the deposit, which are exposed at surface, could potentially be amenable to lower cost open pit mining
- Preliminary results of the metallurgical testwork show the mineralogy and metallurgy of the Klyntsi mineralisation is readily amenable to conventional gold recovery using gravity-flotation enrichment with achieved average 83% gold recovery
- The cut-off grade adopted for reporting (1.0 g/t Au) is considered reasonable given the Mineral Resource is likely to be exploited by underground mining methods.

14.19 Mineral Resource Statement

The MRE has been reported in accordance with CIM Definition Standards and it is therefore suitable for public release. The MRE is reported by classification in Table 14.9. The Mineral Resource has been reported above a cut-off of 1.0 g/t Au and is current to 31 October 2020.

Table 14.9: Klyntsi MRE by classification – 31 October 2020

Klyntsi Mineral Resources, October 2020					
Category	Zone	Tonnes (Mt)	Gold		
			Grade (g/t)	Metal (t)	Metal (koz)
Indicated	Klyntsi	1.8	2.8	4.8	156
	Hubivka	0.3	2.5	0.8	26
Total Indicated		**2.1**	**2.7**	**5.6**	**182**
Inferred	Klyntsi	4.0	2.4	9.6	309
	Hubivka	0.7	3.0	2.2	70
Total Inferred		**4.7**	**2.5**	**11.8**	**379**

Notes:

- *Mineral Resources are classified according to the CIM Definition Standards for Mineral Resources and Mineral Reserves (10 May 2014).*
- *The MRE was prepared by Dmitry Pertel, MAIG, (CSA Global).*
- *The Effective Date of the MRE is 31 October 2020.*
- *A reporting cut-off grade of 1.0 g/t Au has been applied.*
- *A bulk density value of 2.73 t/m^3 and 2.70 t/m^3 was used for all model cells in the Klyntsi and Hubivka zones, respectively.*
- *No Measured Resources or Mineral Reserves of any category were identified.*
- *Mineral resources are not mineral reserves and by definition do not demonstrate economic viability. This MRE includes inferred Mineral Resources that are normally considered too speculative geologically to have economic considerations applied to them that would enable them to be categorised as mineral reserves.*
- *Rows and columns may not add up exactly due to rounding.*

Grade-tonnage information with cut-off grades between 0 and 5 g/t Au with subdivision to the deposit zones is provided in Appendix B. Localisation of Mineral Resources with a grade >0.5 g/t within the Central site of the deposit is shown in the Figure 14.14.

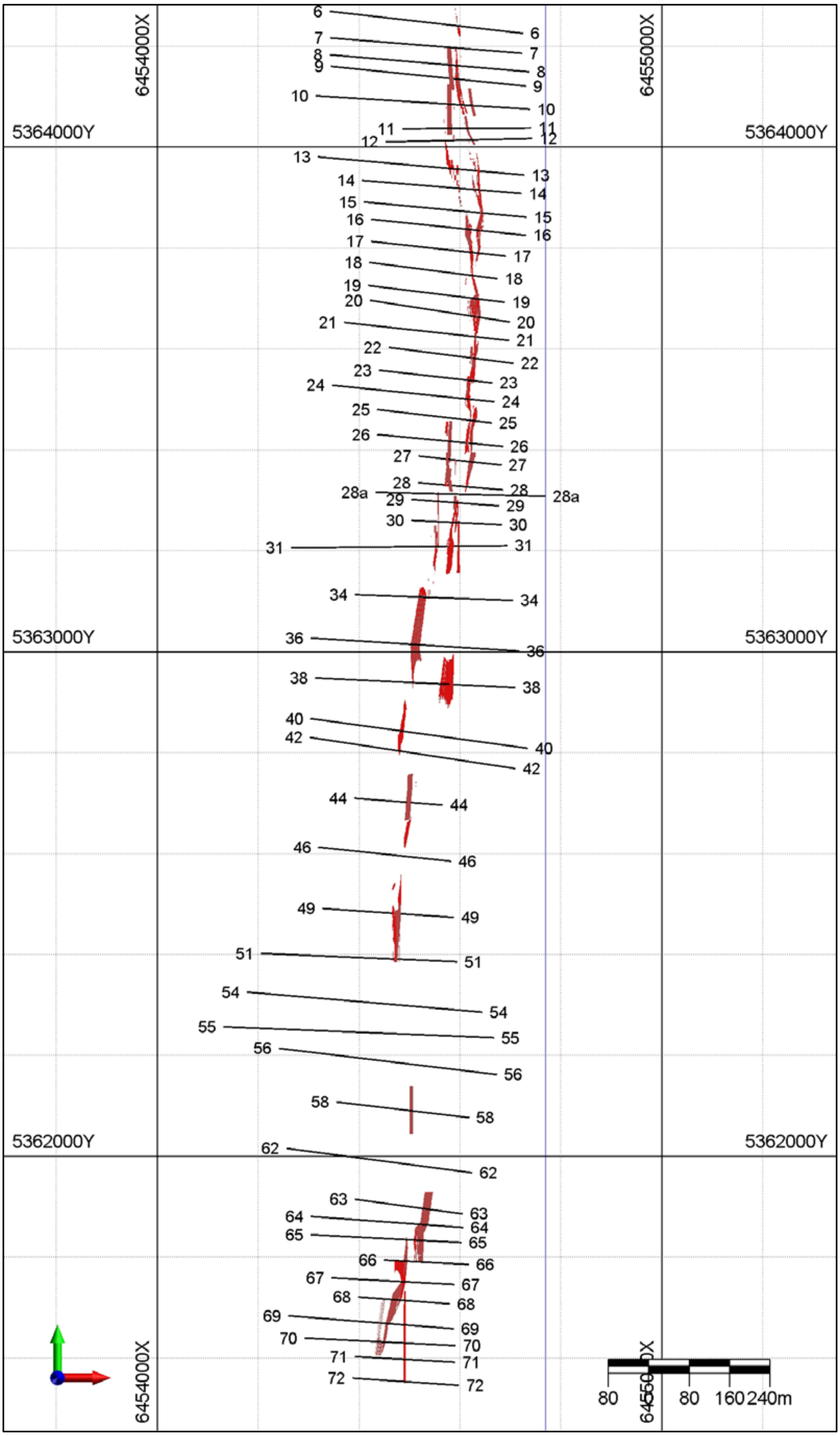


Figure 14.14: Resources with grade >5 g/t within the Central Site of the Klyntsi deposit

14.20 Difference from Previous Resource Estimate

The previous estimate of the Klyntsi deposit was completed in 2018 in line with the Russian GKZ guidelines, which are not compatible with the CIM standards. The total reported tonnage was 9 Mt with an average grade of 5.24 g/t and total 47 tonnes of metal. This estimate included all GKZ categories from C_2 to P_2 and was based on 1.0 g/t cut-off grade. It should be note that P categories usually represent exploration potential, and only some of P_1 category could sometimes be converted to Inferred. The previous estimate cannot be directly compared with the current one.

If C_2 and P_1 categories are compared with the current estimate using 1 g/t cut-off grade, then total tonnage of the current estimate is 18% higher, the average grade is about 40% lower and the total metal is about 35% lower. The lower tonnage could be explained as some of the material which was classifies as P_1 was not included into the current model. The significant difference in grades and metal are not clear, but most likely could be explained by different estimation techniques used in 2018. Some differences could also be explained by the following:

The current estimate was based on the ordinary fire assayed analyses, while the historical estimate employed also control, group, composited and other sample types without top cutting.

14.21 Resource Growth Prospects

The Klyntsi deposit has the potential to increase Mineral Resources.

As mentioned, the gold resources of the Klyntsi deposit, estimated on the drillholes data, are most probably underestimated from the low weight of core samples. This is due to the complex structure of the mineralised bodies of the Klyntsi deposit with coarse gold of extremely uneven distribution. Therefore, during further exploration (including operational), an increase in the Mineral Resource is possible.

In addition, within the Klyntsi Project area, 600 m west of the Central site, the West Klyntsi site of gold mineralisation was identified. Within the site, 14 drillholes were drilled with a depth of 300 m to 400 m. Gold mineralisation was traced along the strike at 2,260 m. Prospective gold resources (unclassified) are estimated at 10.6 tons and are a prospect for expanding the resource base of the Klyntsi deposit.

15 Mineral Reserve Estimates

This section is not applicable to the current Report.

16 Mining Methods

This section is not applicable to the current Report.

17 Recovery Methods

This section is not applicable to the current Report.

18 Project Infrastructure

This section is not applicable to the current Report.

19 Market Studies and Contracts

This section is not applicable to the current Report.

20 Environmental Studies, Permitting and Social or Community Impact

20.1 Location, Climate and Terrain

The Klyntsi Gold Project is located in the steppe part of Ukraine. The relief is slightly hilly, complicated by hills of glacial origin, with absolute surface elevations from 130 m to 90 m above sea level. The relief decreases in elevation from north to south.

The climate is a moderate continental with four main seasons. The average annual temperature is about +7.5°C (from -10°C in December-February to +30°C in June-July).

20.2 Hydrology and Hydrogeology

The following aqueous layers are established at the deposit:

- Aqueous layer in recent alluvial sediments of rivers and gullies
- Aqueous layer in aeolian and deluvial Upper and Middle Pleistocene sediments of the plateau and slopes
- Aqueous layer in a fractured zone of crystalline Precambrian rocks and their weathering crust.

The aqueous layer in soft sediments is formed due to the infiltration of atmospheric precipitation and is used by the local population for the supply of drinking water. According to the chemical composition, the waters contain sulphate-hydrocarbonate and hydrocarbonate-sulphate, with magnesium and calcium. Mineralisation ranges between 0.3 g/dm^3 and 1.0 g/dm^3, and the flow rate of wells are 1 m^3 per day and from holes, 2.72–5.71 litres per second.

The aqueous layer in the fractured zone of crystalline rocks and their weathering crust is the main one and most of all affects the hydrogeology of the deposit. The quality of the water generally meets Ukrainian drinking water standards.

The total water inflow into underground workings is estimated at no more than 54 m^3 per hour.

20.3 Soil, Subsoil and Micro-Environment

The most common types of soil area are medium and low humus Chernozems. The mechanical composition of the soil is heavy loamy and light loamy. More than 80% of the land supply of the territory is occupied by agricultural land, about 10% is pastures, the rest are plowland. Water erosion after heavy rainfall can have a significant impact upon the plowed land.

The geotechnical conditions of the site are characterized by the presence of two main strata: sedimentary rocks, represented by deluvial-eluvial subaerial sediments, and crystalline rocks. Subaerial strata (up to a depth of 3.5 m) are soils that are easily destroyed by mechanical stress and change properties under the influence of moisture. Weathered crust of granites (up to a depth of 47 m) has a low structural strength, which is important for the choice of methods for supporting mine workings. Below there is a stratum of crystalline rocks, granites and gneisses of varying degrees of fracture, which usually do not require special methods of mining and supporting.

20.4 Wildlife, Plant Life and Vegetation

Most of the territory is located in the steppe zone which are mostly meadow. The herbaceous cover is intense in spring, when there is a lot of moisture in the soil, and by the middle of summer it dries up from the heat. Vegetation is especially various on the slopes of river valleys and gullies, on the edges of forests. A small part of the territory (about 7%) is represented by broadleaf forests (oak, ash-oak, maple-linden-oak). Meadow and marsh vegetation are well preserved.

Most of the wild fauna survives in river valleys, gullies and woodlands. Reptiles (lizards, snakes, marsh turtles) are represented by 13 species. There are different types of rodents here: ground squirrels, beavers, mouse-like rodents. There are also hares, wolves, foxes, raccoon dogs, and weasels. Due to the active use of plowland, there are no permanent habitats for animals.

20.5 Population and Demographics

In the Kirovohrad region, the urban population is about 60%, and for rural, about 40%. The population of the Kropyvnytskyi and Kompaniivka districts is 52,500, of which 48,000 live in rural settings. The population density in these regions is 23.8 and 15.9 people per square kilometre, respectively. The population of the Klintsy village is 840 people (Klyntsi village).

The region is agrarian-industrial, with well-developed agricultural production, which accounts for 32% of local income; industry accounts for 28%. The agricultural sector employs about 30% of those employed in agriculture.

Currently, about 3% of the population is employed in the mining industry of the region. Lyra’s activities will have a positive impact on the social environment and local economy in terms of infrastructure development and job creation.

21 Capital and Operating Costs

This section is not applicable to the current Report.

22 Economic Analysis

This section is not applicable to the current Report.

23 Adjacent Properties

Gold and uranium deposits of hydrothermal-metasomatic type are located in the area of the Klyntsi deposit. The Yurivske gold deposit is located 14 km to the southwest and remains undeveloped. The Michurinske uranium deposit is 10 km to the northwest, and the Central uranium deposit is about 30 km to the northwest (Inhul uranium mine). They belong to albitite metasomatic deposits and are currently being developed.

24 Other Relevant Data and Information

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

25 Interpretation and Conclusions

This Report was initiated by Lyra for CSA Global to prepare a MRE for the Klyntsi Gold Project, located in the Kropyvnytskyi and Kompaniyivskky districts of the Krivohrad region in Ukraine, and incorporates both historical and recent drilling and underground channel sampling results. The Report describes the Project history and the work done by CSA Global to estimate Mineral Resources at the Klyntsi Gold Project as well as modelling methodology and results. The work interpretation and modelling work has resulted in CSA Global preparing a MRE for the Project in the Indicated and Inferred categories. The results of this Mineral Resource are summarised in Table 25.1 below.

Table 25.1: Klyntsi Mineral Resources

Klyntsi Mineral Resources, October 2020					
Category	**Zone**	**Tonnes (Mt)**	**Gold**		
			Grade (g/t)	**Metal (t)**	**Metal (koz)**
Indicated	Klyntsi	1.8	2.8	4.8	156
	Hubivka	0.3	2.5	0.8	26
Total Indicated		**2.1**	**2.7**	**5.6**	**182**
Inferred	Klyntsi	4.0	2.4	9.6	309
	Hubivka	0.7	3.0	2.2	70
Total Inferred		**4.7**	**2.5**	**11.8**	**379**

CSA Global believes this Mineral Resource is a reliable estimate of the mineralisation present at the Klyntsi. The data used as inputs to the model have been collected and compiled at high standard and indicate that the Project is a mineral asset that could potentially be further explored and developed. As such, CSA Global recommends that additional exploration work be conducted at the Project to upgrade the Mineral Resource, and to improve the classification of the current Mineral Resource to a higher classification, particularly for areas suitable for mining.

A review of the Project risks identified the following:

- Initial data: The available database is based on fire assays which is the most common and reliable analytical method used for gold samples in the industry. However, previous studies indicate that some coarse gold is present within the mineralised bodies, and that could result is underestimation of gold grades in samples.
- Mineral Resource: The Mineral Resource model documented herein is sufficiently reliable to support initial engineering and design studies to evaluate the viability of a mining project at a preliminary economic analysis of scoping study level and for the Indicated Resources a higher study such as a preliminary feasibility level. The Project's economic viability is sensitive to the mining methods due to the narrow subvertical nature of mineralised bodies. Infill drilling in critical areas would significantly reduce any potential risk in the Mineral Resource estimation.
- Mining: It is expected that some part of the deposit will be mined using industry standard open pit mining techniques utilising modern technology with proven success, and some areas of the deposit could also be mined using underground methods. However, this has not been assessed in this report.
- Processing: Results of the metallurgical testwork shows that conventional gravity concentration returns an average of 80–84% gold recovery, while the direct cyanidation returned 83–85% gold recovery.
- Environmental and social: Baseline studies have been commenced by Lyra Mine. These conditions may be favourable for mine development.
- Economic outcomes: Economic studies were not part of the Project scope.
- Permitting: The exploration and permit was granted to Lyra in September 2019 for the period of 15 years. It is valid until September 2034 and covers an area of 1.013 km^3.

26 Recommendations

CSA Global recommends the following are completed to support ongoing exploration, PEA and a PFS:

- Current QAQC procedures should be maintained to ensure high-quality data is available for subsequent MREs.
- Additional tests for bulk densities are required for more accurate tonnage estimate of the deposit.
- Detailed topographic survey is required for the Hubivka site of the deposit area, which will be essential at the PFS level studies and mine planning.
- Lyra should consider progressing additional exploration to expand resources at Klyntsi.
- Further tests to improve analytical procedures to deal with coarse gold is recommended. That could be screening techniques, large drilling diameter, larger samples and more accurate sample preparation procedures.
- Determination of optimal mining methods and to select open cut, underground or combined mining method.
- Further studies are recommended to assess the economic viability of the Project.
- Further exploration and evaluation programs are required to upgrade the confidence of the extent and quality of mineralisation. Infill drilling will be required within the Inferred and Indicated Resource areas if a higher classification is sought by Lyra. CSA Global recommends mining exploration in preparation for deposit development.
- Additional metallurgical tests are recommended to assess the recovery of gold.
- Assessment of the impacts of hydrology and hydrogeology for mining.
- A geotechnical study to better understand the rock mechanics of the various lithologies within the deposit to support mine design (and mining).
- Perform more detailed environmental studies to support more detailed feasibility studies at the Project.

27 References

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28 Abbreviations and Units of Measurement

°	degrees
°	degrees Celsius
3D	three-dimensional
AAS	atomic absorption spectrometry
Au	gold
cm	centimetre(s)
CRM	certified reference material
CSA Global	CSA Global Pty Ltd
DTM	digital terrain model
ECM	electrical correlation method
g	gram(s)
g/t	grams per tonne
GPS	global positioning system
GSC	Geological Service Company LLC
IDW	inverse distance weighting
kg	kilogram(s)
km	kilometre(s)
km^2	square kilometre(s)
koz	kilo-ounces (or thousand ounces)
kt	kilo-tonnes (or thousand tonnes)
Lyra	Lyra Mine Minerals LLC
m	metre(s)
m^2	square metre(s)
m^3	cubic metre(s)
mm	millimetre(s)
Mm^3	million cubic metres
MRE	Mineral Resource estimate
Mt	million tonnes
NI 43-101	National Instrument 43-101
OK	ordinary kriging
oz	ounce(s)
PEA	preliminary economic assessment
PFS	prefeasibility study
QAQC	quality assurance/quality control
t	tonne(s)
t/m^3	tonnes per cubic metre
the Project	Klyntsi Gold Project

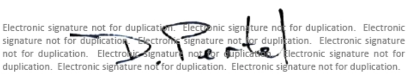
Appendix A Certificates of Qualified Persons

Certificate of Qualified Person – Dmitry Pertel

I, Dmitry Pertel, Geologist, as author of this report titled "NI 43-101 Technical Report for the Klyntsi Gold Project Mineral Resource Estimate, Ukraine", prepared for Lyra Mine Management LLC and with an Effective Date of 31 October 2020, do hereby certify that:

- I am a Principal Geologist with CSA Global Pty Ltd. My office address is Level 2, 3 Ord Street, West Perth, Western Australia 6005.
- I am a graduate of the Saint Petersburg Mining University in 1986 with a Master's degree in Geology.
- I am a Member of Australian Institute of Geoscientists (AIG) and registered as a Professional Geoscientist, Certificate #2248. I have worked as a Geologist for a total of 34 years since my graduation. My relevant experience for the purpose of the Technical Report is:
  - development and reporting of Mineral Resource model, excluding interpretation and wireframing
  - review interpretation and wireframing of mineralised bodies
  - review quality assurance/quality control procedures and protocols
  - Principal Geologist on a number of Mineral Resource studies and development of block models for the gold industry.
- 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.
- I have not visited the Klyntsi Gold Project.
- I have authored all sections of the report and am responsible for Items 1, 3, 4, 5, 6, 13, 14, 20, 23, 24, 25, 26 and 27 of the Technical Report.
- I am independent of the Issuer applying the test set out in Section 1.5.(4) of NI 43-101.
- I have no prior involvement in the Klyntsi Gold Project.
- I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.
- At the Effective Date of this Technical Report, to the best of my knowledge, information, and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

Dated the 31st day of October 2020 at Perth, Western Australia



Dmitry Pertel, M.Sc., MAIG

CSA Global Principal Geologist

Certificate of Qualified Person – Nataliia Bariatska

I, Nataliia Bariatska, Geologist, as author of this report titled "NI 43-101 Technical Report for the Klyntsi Gold Project Mineral Resource Estimate, Ukraine", prepared for Lyra Mine Management LLC and with an Effective Date of 31 October 2020, do hereby certify that:

- I am a Chief Geologist with Geological Service Company LLC. My office address is 22A, Borychiv Tik Street, Kyiv, Ukraine, 04070.
- I am a graduate of the Taras Shevchenko National University of Kyiv in 2002 with a Master's degree in Geology, in 2012 with Doctor's degree in Geology.
- I am a Member of Australian Institute of Geoscientists (AIG) and registered as a Professional Geoscientist, Certificate #7676. I have worked as a Geologist for a total of 20 years since my graduation. My relevant experience for the purpose of the Technical Report is:
  - interpretation and wireframing of mineralised bodies
  - report quality assurance and quality control procedures and protocols, site visits and laboratory inspections
  - database management and validation
  - Principal Geologist on a number of Mineral Resource studies and development of block models for the gold industry.
- 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.
- I have visited the Klyntsi Gold Project between 28 April and 27 May 2020 with three days at the deposit site and exploration camp, and several days at the Lyra office in Kiev, Ukraine.
- I am responsible for Items 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 and 20 of the Technical Report.
- I am independent of the Issuer applying the test set out in Section 1.5.(4) of NI 43-101.
- I have no prior involvement in the Klyntsi Gold Project.
- I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.
- At the Effective Date of this Technical Report, to the best of my knowledge, information, and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

Dated the 31st day of October 2020 at Kyiv, Ukraine

Nataliia Bariatska, D.Sc., MAIG

Geological Service Company LLC, Chief Geologist

Appendix B Grade-Tonnage Report

Table B1: Klyntsi deposit grade-tonnage report

Cut-off (Au, g/t)	Zone	Category	Volume (Mm³)	Tonnes (Mt)	Density (t/m³)	Au		
						g/t	koz	t
0	Klyntsi	Indicated	0.98	2.69	2.73	2.05	177	5.5
	Hubivka		0.15	0.40	2.70	2.16	28	0.9
	Total		**1.13**	**3.09**	**2.73**	**2.07**	**205**	**6.4**
	Klyntsi	Inferred	3.21	8.77	2.73	1.48	416	13.0
	Hubivka		0.52	1.40	2.70	1.90	85	2.7
	Total		**3.73**	**10.17**	**2.73**	**1.53**	**502**	**15.6**
0.1	Klyntsi	Indicated	0.98	2.69	2.73	2.05	177	5.5
	Hubivka		0.15	0.40	2.70	2.16	28	0.9
	Total		**1.13**	**3.09**	**2.73**	**2.07**	**205**	**6.4**
	Klyntsi	Inferred	3.21	8.77	2.73	1.48	416	13.0
	Hubivka		0.52	1.40	2.70	1.90	85	2.7
	Total		**3.73**	**10.16**	**2.73**	**1.54**	**502**	**15.6**
0.2	Klyntsi	Indicated	0.98	2.69	2.73	2.06	177	5.5
	Hubivka		0.15	0.40	2.70	2.16	28	0.9
	Total		**1.13**	**3.09**	**2.73**	**2.07**	**205**	**6.4**
	Klyntsi	Inferred	3.21	8.76	2.73	1.48	416	12.9
	Hubivka		0.52	1.40	2.70	1.90	85	2.7
	Total		**3.73**	**10.16**	**2.73**	**1.54**	**502**	**15.6**
0.3	Klyntsi	Indicated	0.98	2.68	2.73	2.06	177	5.5
	Hubivka		0.15	0.40	2.70	2.16	28	0.9
	Total		**1.13**	**3.09**	**2.73**	**2.07**	**205**	**6.4**
	Klyntsi	Inferred	3.21	8.76	2.73	1.48	416	12.9
	Hubivka		0.52	1.40	2.70	1.90	85	2.7
	Total		**3.73**	**10.16**	**2.73**	**1.54**	**502**	**15.6**
0.4	Klyntsi	Indicated	0.98	2.67	2.73	2.06	177	5.5
	Hubivka		0.15	0.40	2.70	2.16	28	0.9
	Total		**1.13**	**3.08**	**2.73**	**2.08**	**205**	**6.4**
	Klyntsi	Inferred	3.19	8.71	2.73	1.48	416	12.9
	Hubivka		0.52	1.40	2.70	1.90	85	2.7
	Total		**3.71**	**10.11**	**2.73**	**1.54**	**501**	**15.6**
0.5	Klyntsi	Indicated	0.97	2.65	2.73	2.08	177	5.5
	Hubivka		0.15	0.40	2.70	2.17	28	0.9
	Total		**1.12**	**3.05**	**2.73**	**2.09**	**205**	**6.4**
	Klyntsi	Inferred	3.17	8.66	2.73	1.49	415	12.9
	Hubivka		0.52	1.39	2.70	1.90	85	2.7
	Total		**3.69**	**10.06**	**2.73**	**1.55**	**500**	**15.6**
0.6	Klyntsi	Indicated	0.92	2.51	2.73	2.16	175	5.4
	Hubivka		0.14	0.39	2.70	2.23	28	0.9
	Total		**1.06**	**2.90**	**2.73**	**2.17**	**202**	**6.3**
	Klyntsi	Inferred	2.91	7.93	2.73	1.58	403	12.5
	Hubivka		0.48	1.31	2.70	1.99	84	2.6
	Total		**3.39**	**9.24**	**2.73**	**1.64**	**486**	**15.1**

Cut-off (Au, g/t)	Zone	Category	Volume (Mm^3)	Tonnes (Mt)	Density (t/m^3)	Au		
						g/t	koz	t
0.7	Klyntsi	Indicated	0.83	2.26	2.73	2.33	169	5.3
	Hubivka		0.14	0.37	2.70	2.29	27	0.9
	Total		**0.97**	**2.64**	**2.73**	**2.32**	**197**	**6.1**
	Klyntsi	Inferred	2.37	6.47	2.73	1.79	373	11.6
	Hubivka		0.33	0.90	2.70	2.60	75	2.3
	Total		**2.70**	**7.37**	**2.73**	**1.89**	**448**	**13.9**
0.8	Klyntsi	Indicated	0.76	2.07	2.73	2.47	165	5.1
	Hubivka		0.13	0.36	2.70	2.33	27	0.8
	Total		**0.89**	**2.44**	**2.73**	**2.45**	**192**	**6.0**
	Klyntsi	Inferred	1.97	5.38	2.73	2.01	347	10.8
	Hubivka		0.33	0.88	2.70	2.64	75	2.3
	Total		**2.30**	**6.26**	**2.73**	**2.10**	**422**	**13.1**
0.9	Klyntsi	Indicated	0.70	1.90	2.73	2.62	160	5.0
	Hubivka		0.13	0.35	2.70	2.39	27	0.8
	Total		**0.83**	**2.25**	**2.73**	**2.58**	**187**	**5.8**
	Klyntsi	Inferred	1.64	4.47	2.73	2.25	323	10.1
	Hubivka		0.30	0.81	2.70	2.81	73	2.3
	Total		**1.94**	**5.28**	**2.73**	**2.33**	**396**	**12.3**
1	Klyntsi	Indicated	0.64	1.75	2.73	2.76	156	4.8
	Hubivka		0.12	0.32	2.70	2.51	26	0.8
	Total		**0.76**	**2.08**	**2.73**	**2.72**	**182**	**5.6**
	Klyntsi	Inferred	1.47	4.01	2.73	2.40	309	9.6
	Hubivka		0.27	0.73	2.70	3.01	70	2.2
	Total		**1.74**	**4.73**	**2.73**	**2.49**	**379**	**11.8**
1.1	Klyntsi	Indicated	0.58	1.58	2.73	2.95	150	4.7
	Hubivka		0.11	0.29	2.70	2.65	25	0.8
	Total		**0.69**	**1.87**	**2.73**	**2.91**	**175**	**5.4**
	Klyntsi	Inferred	1.29	3.52	2.73	2.59	293	9.1
	Hubivka		0.23	0.61	2.70	3.39	67	2.1
	Total		**1.52**	**4.13**	**2.73**	**2.71**	**360**	**11.2**
1.2	Klyntsi	Indicated	0.52	1.42	2.73	3.16	144	4.5
	Hubivka		0.10	0.26	2.70	2.81	24	0.7
	Total		**0.62**	**1.68**	**2.73**	**3.10**	**168**	**5.2**
	Klyntsi	Inferred	1.19	3.26	2.73	2.70	283	8.8
	Hubivka		0.20	0.54	2.70	3.68	64	2.0
	Total		**1.40**	**3.80**	**2.73**	**2.84**	**348**	**10.8**
1.3	Klyntsi	Indicated	0.47	1.28	2.73	3.36	138	4.3
	Hubivka		0.09	0.23	2.70	3.03	23	0.7
	Total		**0.56**	**1.52**	**2.73**	**3.31**	**161**	**5.0**
	Klyntsi	Inferred	1.03	2.82	2.73	2.93	266	8.3
	Hubivka		0.18	0.49	2.70	3.93	62	1.9
	Total		**1.21**	**3.31**	**2.73**	**3.08**	**328**	**10.2**
1.4	Klyntsi	Indicated	0.42	1.14	2.73	3.62	132	4.1
	Hubivka		0.08	0.21	2.70	3.23	22	0.7
	Total		**0.49**	**1.34**	**2.73**	**3.56**	**154**	**4.8**
	Klyntsi	Inferred	0.91	2.47	2.73	3.16	251	7.8
	Hubivka		0.17	0.45	2.70	4.16	60	1.9
	Total		**1.07**	**2.92**	**2.73**	**3.31**	**311**	**9.7**

Cut-off (Au, g/t)	Zone	Category	Volume (Mm³)	Tonnes (Mt)	Density (t/m³)	Au		
						g/t	koz	t
1.5	Klyntsi	Indicated	0.37	1.01	2.73	3.88	126	3.9
	Hubivka		0.07	0.18	2.70	3.46	21	0.6
	Total		**0.44**	**1.19**	**2.73**	**3.82**	**147**	**4.6**
	Klyntsi	Inferred	0.79	2.16	2.73	3.41	237	7.4
	Hubivka		0.15	0.39	2.70	4.54	58	1.8
	Total		**0.94**	**2.56**	**2.73**	**3.58**	**294**	**9.2**
1.6	Klyntsi	Indicated	0.34	0.93	2.73	4.09	122	3.8
	Hubivka		0.06	0.16	2.70	3.81	19	0.6
	Total		**0.40**	**1.08**	**2.73**	**4.05**	**141**	**4.4**
	Klyntsi	Inferred	0.68	1.87	2.73	3.71	222	6.9
	Hubivka		0.13	0.35	2.70	4.91	55	1.7
	Total		**0.81**	**2.22**	**2.73**	**3.90**	**278**	**8.6**
1.7	Klyntsi	Indicated	0.31	0.85	2.73	4.32	118	3.7
	Hubivka		0.06	0.15	2.70	3.92	19	0.6
	Total		**0.37**	**1.00**	**2.73**	**4.26**	**137**	**4.2**
	Klyntsi	Inferred	0.61	1.66	2.73	3.97	211	6.6
	Hubivka		0.12	0.33	2.70	5.15	54	1.7
	Total		**0.73**	**1.98**	**2.73**	**4.16**	**266**	**8.3**
1.8	Klyntsi	Indicated	0.29	0.79	2.73	4.51	115	3.6
	Hubivka		0.05	0.14	2.70	4.03	18	0.6
	Total		**0.34**	**0.93**	**2.73**	**4.43**	**133**	**4.1**
	Klyntsi	Inferred	0.57	1.54	2.73	4.13	205	6.4
	Hubivka		0.11	0.29	2.70	5.63	52	1.6
	Total		**0.67**	**1.83**	**2.73**	**4.36**	**257**	**8.0**
1.9	Klyntsi	Indicated	0.27	0.73	2.73	4.72	111	3.5
	Hubivka		0.05	0.13	2.70	4.16	18	0.6
	Total		**0.32**	**0.87**	**2.73**	**4.63**	**129**	**4.0**
	Klyntsi	Inferred	0.49	1.34	2.73	4.48	193	6.0
	Hubivka		0.10	0.27	2.70	5.90	51	1.6
	Total		**0.59**	**1.61**	**2.73**	**4.72**	**244**	**7.6**
2	Klyntsi	Indicated	0.25	0.69	2.73	4.90	108	3.4
	Hubivka		0.05	0.12	2.70	4.34	17	0.5
	Total		**0.30**	**0.81**	**2.73**	**4.81**	**126**	**3.9**
	Klyntsi	Inferred	0.45	1.23	2.73	4.71	186	5.8
	Hubivka		0.09	0.23	2.70	6.51	49	1.5
	Total		**0.54**	**1.46**	**2.73**	**5.00**	**235**	**7.3**
2.1	Klyntsi	Indicated	0.24	0.65	2.73	5.07	106	3.3
	Hubivka		0.04	0.11	2.70	4.66	16	0.5
	Total		**0.28**	**0.76**	**2.73**	**5.01**	**122**	**3.8**
	Klyntsi	Inferred	0.41	1.11	2.73	5.00	178	5.5
	Hubivka		0.07	0.20	2.70	7.22	46	1.4
	Total		**0.48**	**1.31**	**2.73**	**5.34**	**225**	**7.0**
2.2	Klyntsi	Indicated	0.23	0.62	2.73	5.22	104	3.2
	Hubivka		0.04	0.10	2.70	4.95	15	0.5
	Total		**0.26**	**0.71**	**2.73**	**5.19**	**119**	**3.7**
	Klyntsi	Inferred	0.39	1.07	2.73	5.10	176	5.5
	Hubivka		0.07	0.19	2.70	7.55	46	1.4
	Total		**0.46**	**1.26**	**2.73**	**5.46**	**221**	**6.9**

Cut-off (Au, g/t)	Zone	Category	Volume (Mm³)	Tonnes (Mt)	Density (t/m³)	Au		
						g/t	koz	t
2.3	Klyntsi	Indicated	0.21	0.58	2.73	5.41	101	3.1
	Hubivka		0.03	0.09	2.70	5.15	15	0.5
	Total		**0.25**	**0.67**	**2.73**	**5.38**	**116**	**3.6**
	Klyntsi	Inferred	0.37	1.00	2.73	5.29	171	5.3
	Hubivka		0.06	0.17	2.70	7.99	45	1.4
	Total		**0.43**	**1.18**	**2.73**	**5.69**	**215**	**6.7**
2.4	Klyntsi	Indicated	0.20	0.54	2.73	5.61	98	3.1
	Hubivka		0.03	0.08	2.70	5.33	15	0.5
	Total		**0.23**	**0.63**	**2.73**	**5.57**	**113**	**3.5**
	Klyntsi	Inferred	0.35	0.97	2.73	5.40	168	5.2
	Hubivka		0.06	0.15	2.70	8.69	43	1.3
	Total		**0.41**	**1.12**	**2.73**	**5.85**	**211**	**6.6**
2.5	Klyntsi	Indicated	0.19	0.51	2.73	5.82	96	3.0
	Hubivka		0.03	0.08	2.70	5.67	14	0.4
	Total		**0.22**	**0.59**	**2.73**	**5.80**	**109**	**3.4**
	Klyntsi	Inferred	0.34	0.94	2.73	5.48	166	5.2
	Hubivka		0.05	0.13	2.70	9.69	41	1.3
	Total		**0.39**	**1.07**	**2.73**	**6.01**	**207**	**6.5**
2.6	Klyntsi	Indicated	0.18	0.48	2.73	6.01	93	2.9
	Hubivka		0.03	0.07	2.70	5.91	13	0.4
	Total		**0.20**	**0.55**	**2.73**	**6.00**	**107**	**3.3**
	Klyntsi	Inferred	0.33	0.91	2.73	5.59	163	5.1
	Hubivka		0.04	0.12	2.70	10.44	40	1.3
	Total		**0.38**	**1.03**	**2.73**	**6.16**	**204**	**6.3**
2.7	Klyntsi	Indicated	0.17	0.46	2.73	6.19	91	2.8
	Hubivka		0.02	0.07	2.70	6.06	13	0.4
	Total		**0.19**	**0.53**	**2.73**	**6.17**	**104**	**3.2**
	Klyntsi	Inferred	0.33	0.89	2.73	5.65	162	5.0
	Hubivka		0.04	0.11	2.70	11.36	39	1.2
	Total		**0.37**	**1.00**	**2.73**	**6.27**	**201**	**6.3**
2.8	Klyntsi	Indicated	0.16	0.43	2.73	6.39	89	2.8
	Hubivka		0.02	0.06	2.70	6.19	13	0.4
	Total		**0.18**	**0.50**	**2.73**	**6.36**	**102**	**3.2**
	Klyntsi	Inferred	0.32	0.86	2.73	5.74	159	5.0
	Hubivka		0.04	0.10	2.70	11.60	39	1.2
	Total		**0.36**	**0.97**	**2.73**	**6.37**	**198**	**6.2**
2.9	Klyntsi	Indicated	0.15	0.40	2.73	6.66	86	2.7
	Hubivka		0.02	0.06	2.70	6.62	12	0.4
	Total		**0.17**	**0.46**	**2.73**	**6.66**	**98**	**3.1**
	Klyntsi	Inferred	0.29	0.80	2.73	5.97	154	4.8
	Hubivka		0.04	0.10	2.70	11.82	39	1.2
	Total		**0.33**	**0.90**	**2.73**	**6.63**	**192**	**6.0**
3	Klyntsi	Indicated	0.14	0.38	2.73	6.92	84	2.6
	Hubivka		0.02	0.05	2.70	6.88	12	0.4
	Total		**0.16**	**0.43**	**2.73**	**6.91**	**96**	**3.0**
	Klyntsi	Inferred	0.28	0.77	2.73	6.07	151	4.7
	Hubivka		0.04	0.10	2.70	12.03	39	1.2
	Total		**0.32**	**0.87**	**2.73**	**6.75**	**190**	**5.9**

Cut-off (Au, g/t)	Zone	Category	Volume (Mm³)	Tonnes (Mt)	Density (t/m³)	Au		
						g/t	koz	t
3.1	Klyntsi	Indicated	0.13	0.36	2.73	7.13	82	2.5
	Hubivka		0.02	0.05	2.70	7.04	12	0.4
	Total		**0.15**	**0.41**	**2.73**	**7.12**	**93**	**2.9**
	Klyntsi	Inferred	0.26	0.70	2.73	6.38	144	4.5
	Hubivka		0.04	0.10	2.70	12.22	38	1.2
	Total		**0.29**	**0.80**	**2.73**	**7.09**	**183**	**5.7**
3.2	Klyntsi	Indicated	0.12	0.34	2.73	7.31	80	2.5
	Hubivka		0.02	0.05	2.70	7.13	12	0.4
	Total		**0.14**	**0.39**	**2.73**	**7.29**	**92**	**2.9**
	Klyntsi	Inferred	0.25	0.68	2.73	6.50	142	4.4
	Hubivka		0.04	0.10	2.70	12.34	38	1.2
	Total		**0.28**	**0.77**	**2.73**	**7.23**	**180**	**5.6**
3.3	Klyntsi	Indicated	0.12	0.33	2.73	7.51	79	2.4
	Hubivka		0.02	0.05	2.70	7.21	11	0.4
	Total		**0.14**	**0.37**	**2.73**	**7.47**	**90**	**2.8**
	Klyntsi	Inferred	0.24	0.66	2.73	6.59	140	4.3
	Hubivka		0.04	0.10	2.70	12.40	38	1.2
	Total		**0.28**	**0.76**	**2.73**	**7.33**	**178**	**5.5**
3.4	Klyntsi	Indicated	0.11	0.31	2.73	7.68	77	2.4
	Hubivka		0.02	0.05	2.70	7.29	11	0.4
	Total		**0.13**	**0.36**	**2.73**	**7.63**	**88**	**2.8**
	Klyntsi	Inferred	0.23	0.63	2.73	6.72	137	4.3
	Hubivka		0.04	0.10	2.70	12.46	38	1.2
	Total		**0.27**	**0.73**	**2.73**	**7.47**	**175**	**5.4**
3.5	Klyntsi	Indicated	0.11	0.30	2.73	7.86	76	2.4
	Hubivka		0.02	0.05	2.70	7.43	11	0.3
	Total		**0.13**	**0.35**	**2.73**	**7.80**	**87**	**2.7**
	Klyntsi	Inferred	0.22	0.61	2.73	6.87	134	4.2
	Hubivka		0.03	0.09	2.70	13.23	37	1.2
	Total		**0.25**	**0.69**	**2.73**	**7.67**	**171**	**5.3**
3.6	Klyntsi	Indicated	0.11	0.29	2.73	8.04	74	2.3
	Hubivka		0.02	0.05	2.70	7.55	11	0.3
	Total		**0.12**	**0.33**	**2.73**	**7.98**	**85**	**2.7**
	Klyntsi	Inferred	0.21	0.58	2.73	7.01	131	4.1
	Hubivka		0.03	0.09	2.70	13.37	37	1.2
	Total		**0.25**	**0.67**	**2.73**	**7.83**	**168**	**5.2**
3.7	Klyntsi	Indicated	0.10	0.28	2.73	8.22	73	2.3
	Hubivka		0.02	0.04	2.70	7.67	11	0.3
	Total		**0.12**	**0.32**	**2.73**	**8.14**	**84**	**2.6**
	Klyntsi	Inferred	0.21	0.57	2.73	7.10	129	4.0
	Hubivka		0.03	0.08	2.70	14.15	36	1.1
	Total		**0.24**	**0.65**	**2.73**	**7.97**	**166**	**5.2**
3.8	Klyntsi	Indicated	0.10	0.27	2.73	8.35	72	2.2
	Hubivka		0.02	0.04	2.70	7.79	11	0.3
	Total		**0.11**	**0.31**	**2.73**	**8.27**	**83**	**2.6**
	Klyntsi	Inferred	0.20	0.55	2.73	7.22	127	4.0
	Hubivka		0.03	0.08	2.70	14.46	36	1.1
	Total		**0.23**	**0.63**	**2.73**	**8.12**	**163**	**5.1**

Cut-off (Au, g/t)	Zone	Category	Volume (Mm³)	Tonnes (Mt)	Density (t/m³)	Au		
						g/t	koz	t
3.9	Klyntsi	Indicated	0.10	0.26	2.73	8.50	71	2.2
	Hubivka		0.02	0.04	2.70	7.97	10	0.3
	Total		**0.11**	**0.30**	**2.73**	**8.43**	**81**	**2.5**
	Klyntsi	Inferred	0.19	0.52	2.73	7.37	124	3.9
	Hubivka		0.03	0.08	2.70	14.70	36	1.1
	Total		**0.22**	**0.60**	**2.73**	**8.30**	**160**	**5.0**
4	Klyntsi	Indicated	0.09	0.25	2.73	8.61	70	2.2
	Hubivka		0.01	0.04	2.70	8.06	10	0.3
	Total		**0.11**	**0.29**	**2.73**	**8.54**	**81**	**2.5**
	Klyntsi	Inferred	0.18	0.49	2.73	7.58	120	3.7
	Hubivka		0.03	0.08	2.70	14.82	36	1.1
	Total		**0.21**	**0.57**	**2.73**	**8.54**	**156**	**4.9**
4.1	Klyntsi	Indicated	0.09	0.25	2.73	8.71	70	2.2
	Hubivka		0.01	0.04	2.70	8.15	10	0.3
	Total		**0.11**	**0.29**	**2.73**	**8.64**	**80**	**2.5**
	Klyntsi	Inferred	0.17	0.47	2.73	7.75	117	3.6
	Hubivka		0.03	0.07	2.70	15.01	36	1.1
	Total		**0.20**	**0.54**	**2.73**	**8.74**	**153**	**4.8**
4.2	Klyntsi	Indicated	0.09	0.24	2.73	8.83	69	2.1
	Hubivka		0.01	0.04	2.70	8.26	10	0.3
	Total		**0.10**	**0.28**	**2.73**	**8.75**	**79**	**2.4**
	Klyntsi	Inferred	0.16	0.45	2.73	7.95	114	3.5
	Hubivka		0.03	0.07	2.70	15.29	35	1.1
	Total		**0.19**	**0.52**	**2.73**	**8.97**	**149**	**4.6**
4.3	Klyntsi	Indicated	0.09	0.23	2.73	8.98	68	2.1
	Hubivka		0.01	0.04	2.70	8.36	10	0.3
	Total		**0.10**	**0.27**	**2.73**	**8.89**	**78**	**2.4**
	Klyntsi	Inferred	0.15	0.41	2.73	8.23	110	3.4
	Hubivka		0.03	0.07	2.70	15.61	35	1.1
	Total		**0.18**	**0.48**	**2.73**	**9.30**	**145**	**4.5**
4.4	Klyntsi	Indicated	0.08	0.23	2.73	9.08	67	2.1
	Hubivka		0.01	0.04	2.70	8.47	10	0.3
	Total		**0.10**	**0.27**	**2.73**	**9.00**	**77**	**2.4**
	Klyntsi	Inferred	0.15	0.40	2.73	8.36	108	3.4
	Hubivka		0.03	0.07	2.70	15.73	35	1.1
	Total		**0.17**	**0.47**	**2.73**	**9.44**	**143**	**4.5**
4.5	Klyntsi	Indicated	0.08	0.22	2.73	9.19	66	2.1
	Hubivka		0.01	0.04	2.70	8.56	10	0.3
	Total		**0.10**	**0.26**	**2.73**	**9.11**	**76**	**2.4**
	Klyntsi	Inferred	0.14	0.39	2.73	8.52	106	3.3
	Hubivka		0.03	0.07	2.70	15.87	35	1.1
	Total		**0.17**	**0.45**	**2.73**	**9.63**	**141**	**4.4**
4.6	Klyntsi	Indicated	0.08	0.22	2.73	9.32	65	2.0
	Hubivka		0.01	0.03	2.70	8.66	10	0.3
	Total		**0.09**	**0.25**	**2.73**	**9.23**	**75**	**2.3**
	Klyntsi	Inferred	0.12	0.34	2.73	9.11	98	3.1
	Hubivka		0.03	0.07	2.70	16.00	35	1.1
	Total		**0.15**	**0.40**	**2.73**	**10.26**	**133**	**4.1**

Cut-off (Au, g/t)	Zone	Category	Volume (Mm³)	Tonnes (Mt)	Density (t/m³)	Au		
						g/t	koz	t
4.7	Klyntsi	Indicated	0.08	0.21	2.73	9.46	64	2.0
	Hubivka		0.01	0.03	2.70	8.78	9	0.3
	Total		**0.09**	**0.24**	**2.73**	**9.37**	**74**	**2.3**
	Klyntsi	Inferred	0.12	0.32	2.73	9.29	96	3.0
	Hubivka		0.02	0.07	2.70	16.20	35	1.1
	Total		**0.14**	**0.39**	**2.73**	**10.47**	**131**	**4.1**
4.8	Klyntsi	Indicated	0.08	0.21	2.73	9.59	63	2.0
	Hubivka		0.01	0.03	2.70	8.93	9	0.3
	Total		**0.09**	**0.24**	**2.73**	**9.50**	**73**	**2.3**
	Klyntsi	Inferred	0.11	0.30	2.73	9.62	93	2.9
	Hubivka		0.02	0.07	2.70	16.32	35	1.1
	Total		**0.13**	**0.37**	**2.73**	**10.82**	**128**	**4.0**
4.9	Klyntsi	Indicated	0.07	0.20	2.73	9.74	62	1.9
	Hubivka		0.01	0.03	2.70	9.09	9	0.3
	Total		**0.08**	**0.23**	**2.73**	**9.65**	**72**	**2.2**
	Klyntsi	Inferred	0.11	0.29	2.73	9.74	92	2.9
	Hubivka		0.02	0.07	2.70	16.44	34	1.1
	Total		**0.13**	**0.36**	**2.73**	**10.96**	**127**	**3.9**
5	Klyntsi	Indicated	0.07	0.19	2.73	9.87	62	1.9
	Hubivka		0.01	0.03	2.70	9.31	9	0.3
	Total		**0.08**	**0.22**	**2.73**	**9.80**	**70**	**2.2**
	Klyntsi	Inferred	0.10	0.28	2.73	9.92	90	2.8
	Hubivka		0.02	0.06	2.70	16.79	34	1.1
	Total		**0.13**	**0.35**	**2.72**	**11.18**	**124**	**3.9**

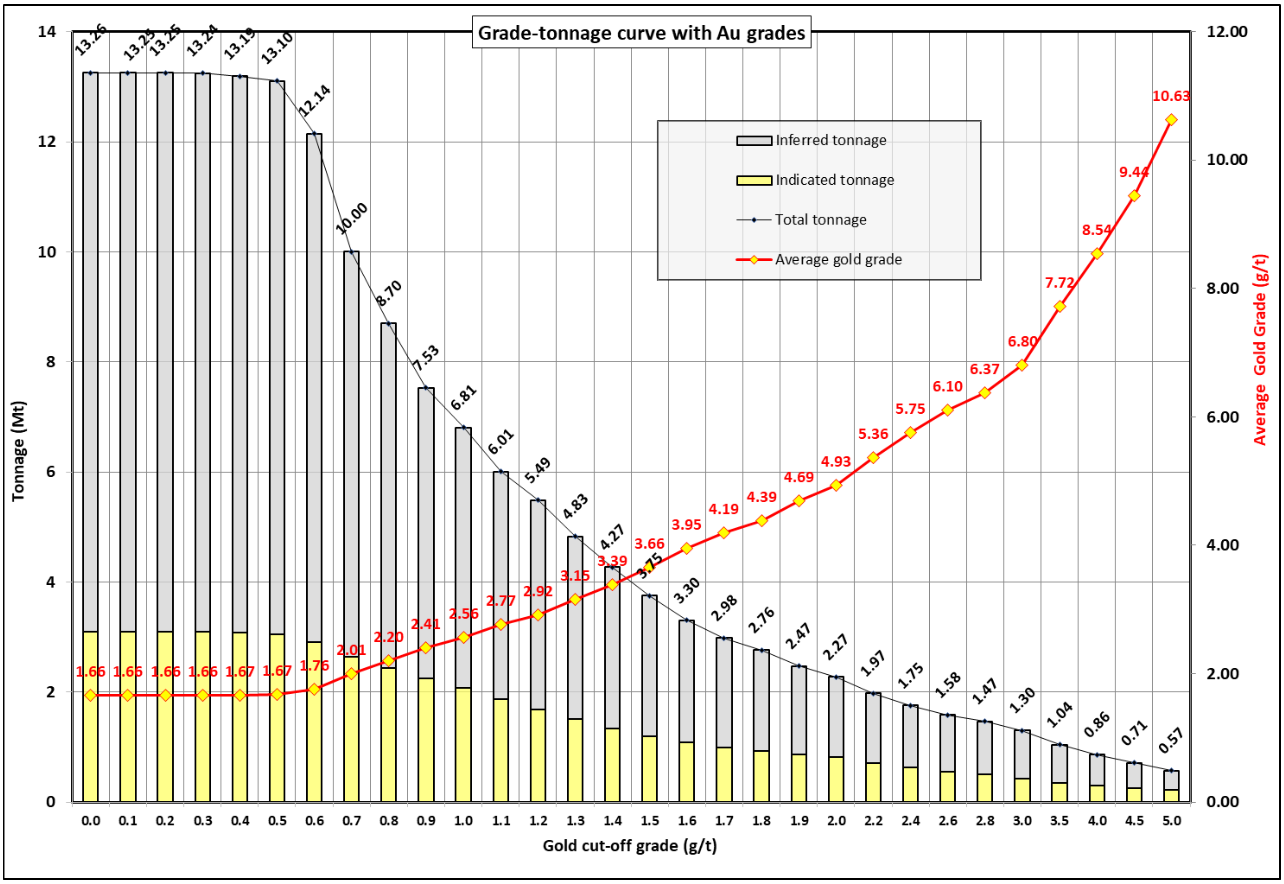


Figure B1: Grade-tonnage curve with gold grades

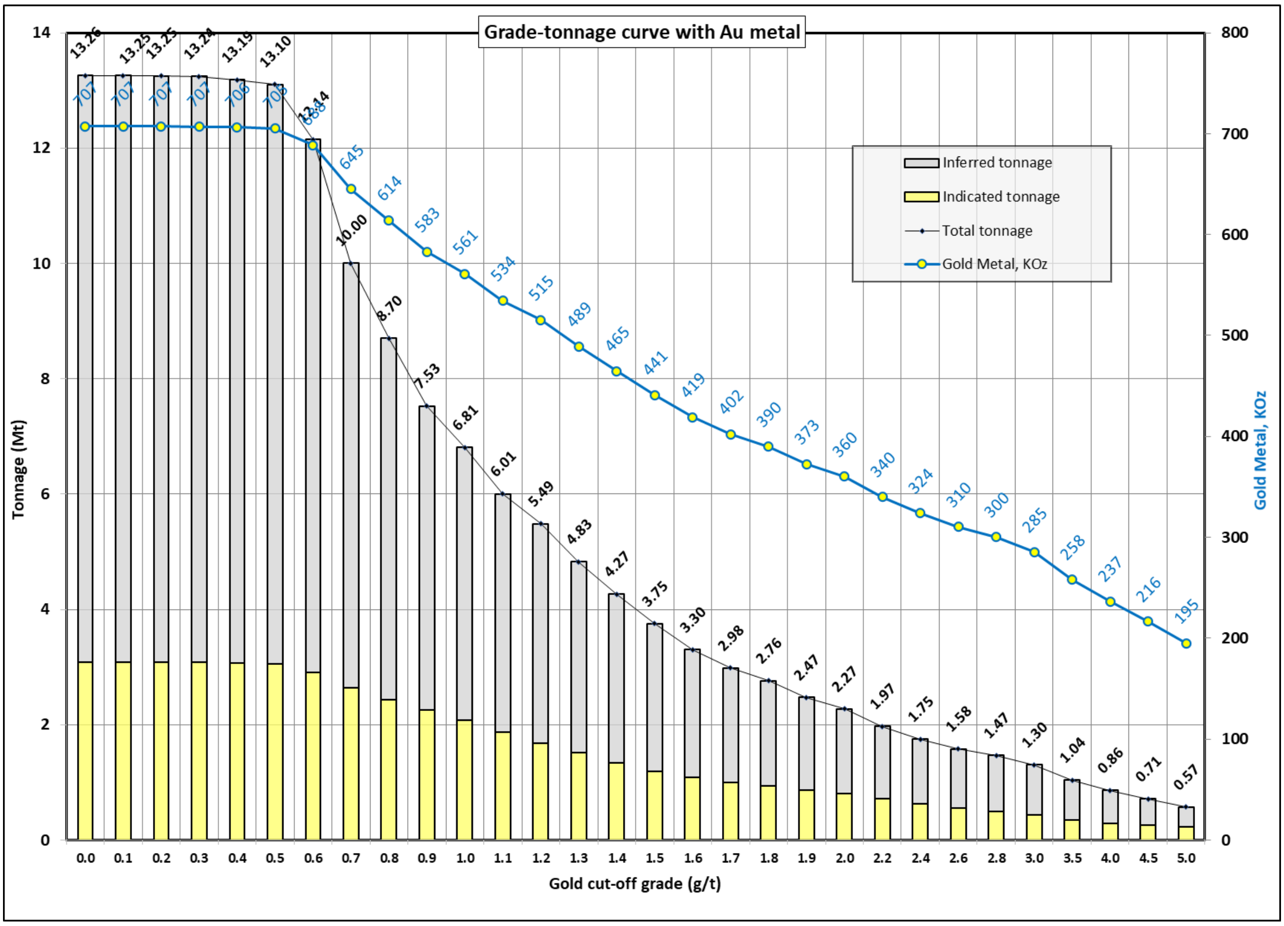


Figure B2: Grade-tonnage curve with gold metal

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