



Pallas Resources Granted Additional 374km² Alakol Exploration License in the >45Moz Stepnyak-Kokshetau Gold Belt of Northern Kazakhstan

- » Pallas granted 374km² (37,400ha) Alakol license within the highly prospective >45Moz Stepnyak-Kokshetau Gold Belt of Northern Kazakhstan, home to Glencore's 15 Moz Vasilkovskoye Mine.
- » Alakol is the second licence granted to Pallas within the last month and extends the Company's presence in the belt to 691km².
- » Licence located 100km by road from Nur-Sultan and surrounded by the Zholymbet (7Moz), Aksu-Kvartsitovye Gorki (6Moz) and Raygorodok (6Moz) deposits 80km to the SE, NE and West respectively.
- » Alakol was selected after extensive regional data compilation and digitization. The company has leveraged in-house generative expertise and our large proprietary geospatial datasets to help identify Alakol as a highly attractive district target.
- » A new structural interpretation based on our recently digitized Soviet era magnetic and gravity surveys was a key targeting feature that led to ground selection; Alakol occurs at the intersection of major N-S and SE-NW structures, similar to Zholymbet (7Moz).
- » Work in the Stepnyak-Kokshetau Gold Belt is part of an ongoing systematic country-wide data sourcing, digitization and targeting strategy. To the best of the Company's knowledge, it now holds the largest regional digital dataset for Kazakhstan of any company.

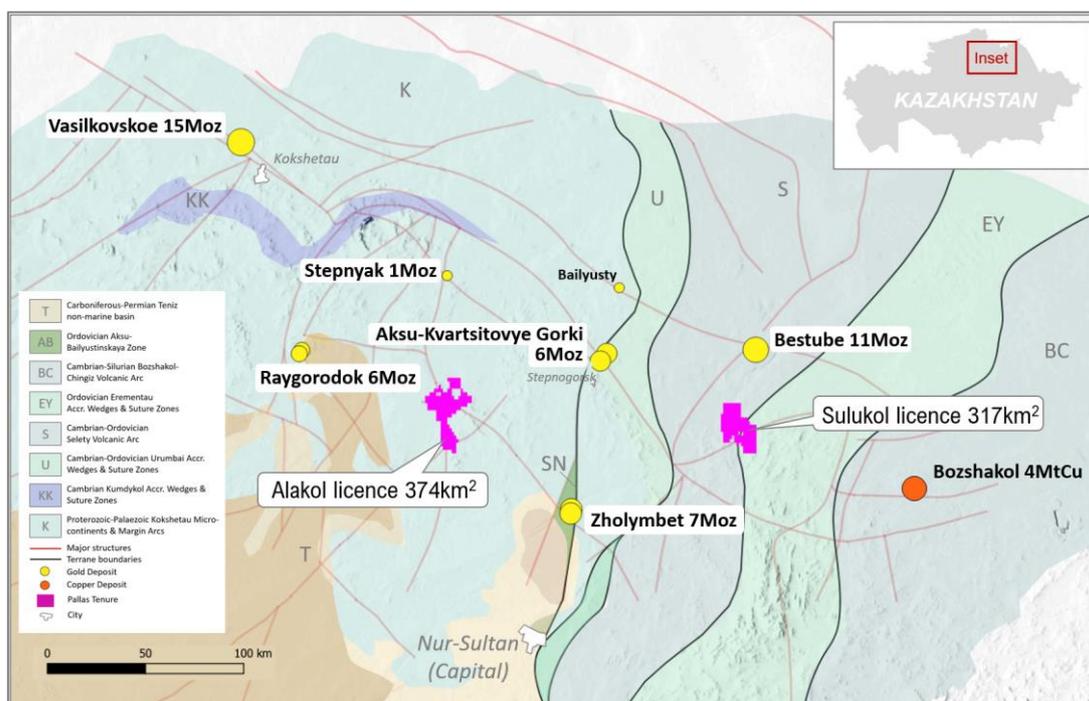


Figure 1: Location of newly granted Alakol and Sulukol licenses within the Stepnyak-Kokshetau Gold Belt of Northern Kazakhstan. The 100% owned licenses total 691km² and are less than 200km drive from Kazakhstan's capital city Nur-Sultan. The belt hosts over 45Moz gold including world class deposits Vasilkovskoye 15 Moz and Bestube 11 Moz. Geology map modified from Windley et al. (2007) and Spiridonov (1995).

Simon Cooper
Director

simon@pallasresources.com
+1 345 926 4209

Daniel Rickleman
Director

daniel@pallasresources.com
+86 135 2082 5720

Jamie Keech
Director

jamie@ivaldi.ca
+1 604 329 9392



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Stepnyak-Kokshetau Gold Belt Focus and Prospectivity

Pallas' Technical Advisor David Groves, a specialist in orogenic gold globally, highlighted the area for its unique combination of significant endowment but lack of modern exploration and discovery. Of the top six deposits in the belt that host some 46Moz, all were discovered during or prior to the 1930s except for Vasilkovskoye which was discovered in 1963 (Table 1).

"The Stepnyak-Kokshetau Gold Belt is a highly endowed orogenic gold belt that includes two world-class gold deposits including Vasilkovskoye (15Moz gold). Despite this endowment and self-evident prospectivity, there has been minimal integrated modern exploration to follow up early Soviet work in the belt. The exploration scenario is similar to that of the Yilgarn of Western Australia before the modern exploration cycle of the 1980-1990s which led to many new world-class greenfield and brownfield gold discoveries. There is a very high probability of discovery of five to ten further large deposits between known deposits and along subparallel crustal-scale shear zones." – **David Groves.**

Deposit	Size	Year of Discovery	Discovered By	Current Ownership	Status
Stepnyak	1 Moz	1886	N. Pulzunovy, ancient workings	Alhambra	Resource
Aksu	6 Moz	1929	F.G. Lapina, gold prospector	KazakhAltyn	Operating
Kvartsitovye-Gorki		1929	F.A. Rybintsev, geologist	KazakhAltyn	Operating
Bestube	11 Moz	1931	Unknown, ancient workings	KazakhAltyn	Operating
Zholymbet	7 Moz	1931	Small scale miners	KazakhAltyn	Operating
Raygorodok	6 Moz	1937	F.A. Rybintsev, geologist	RG Gold (Verny Capital and RCF)	Expansion
Vasilkovskoye	15 Moz	1963	State Geology Party	Kazzinc Gold (Glencore & Kazakh Government)	Operating

Table 1: The top six deposits within the Stepnyak-Kokshetau Belt and their year of discovery.

Stepnyak-Kokshetau Gold Belt Geology and Metallogeny

The Northern Kazakhstan province consists of Vendian to early Palaeozoic turbidite and island-arc terranes and Precambrian metamorphic blocks. Middle to Late Ordovician granitoids of the Stepnyak Complex stitch these terranes. These intrusives can now be seen along the early to middle Palaeozoic strike-slip faults, such as the N-S Tselinograd fault along which the Zholymbet (7 Moz) and Aksu-Kvartsitovye Gorki (6 Moz) deposits occur.

Major gold deposits are generally spatially but not genetically associated with the intrusives of the older Stepnyak Complex. The exception being Vasilkovskoye which has been dated to within a few million years of the host intrusion. Like orogenic gold belts around the world, deposit locations at Stepnyak-Kokshetau Gold Belt appear controlled by regional strike slip structures and often their intersection with major oblique structures including terrane sutures.

Host rocks are variable, from all phases of the Stepnyak Complex (granodiorite, tonalite, norite, diorite and gabbro), to the intruded flysch (greywacke, lithic sandstone, siltstone, mudstone) and mixed volcanics. Mineralisation occurs as typical orogenic style quartz-veining with associated quartz-carbonate sericite alteration along controlling near-vertical structures. Broader stockworks and disseminated mineralisation are also common up to tens of metres wide at some deposits.



PALLAS RESOURCES LIMITED

2nd Floor, Heathman's House
19 Heathman's Rd
London, SW6 4TJ, UK

www.pallasresources.com



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Mining occurs by open pit and underground operations at Bestube, Aksu-Kvartsitovye Gorki and Zholymbet, while Vasilkovskoye and Raigorodok are open pit only. Open pit mined grades at all deposits are quoted at between 2.5 to 3.0g/t with the exception of Raigorodok which is ~1.3g/t.

Underground mining was historically focused on high grade zones with reserves at 10.7 and 21.2g/t quoted in 2006 for Aksu-Kvartsitovye Gorki and Zholymbet respectively. However more recently bulk mining and processing has allowed underground grades of 3.8 to 4.0g/t respectively.

Gold is generally associated with sulphides – pyrite, pyrrhotite, arsenopyrite, although generally non-refractory. Up until recently gravity separation and flotation were most commonly used, however CIP and heap leaching have been introduced more recently. Aksu-Kvartsitovye Gorki and Bestube contain a high percentage of gravity-recoverable free gold. Mining of the partially refractory primary ore at Vasilkovskoye only began in 2010, however a HPGR-Ball Mill- Gravity-Flotation-UGF-Leachox–CIL flowsheet now achieves >80% recovery at an ~8Mtpa throughput.

Historic total production has been estimated at around 25 Moz. 2020 production at Vasilkovskoe was 580Koz, Raigorodok is ramping up to 180kozpa while Bestube, Aksu-Kvartsitovye Gorki and Zholymbet produce <100Koz per annum each.



Figure 4: The 580Kozpa Vasilkovskoye Mine, Kokshetau District, Northern Kazakhstan [image credit](#)

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Director

simon@pallasresources.com
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Daniel Rickleman
Director

daniel@pallasresources.com
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Jamie Keach
Director

jamie@ivaldi.ca
+1 604 329 9392



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Targeting Process

Alakol was selected after an extensive regional data compilation and digitization process. The key targeting feature that led to the selection of the Alakol license was a new structural interpretation from newly digitized Soviet era magnetic and gravity surveys. Alakol occurs at the intersection of major N-S and SE-NW structures, equivalent to the setting that hosts the Zholymbet (7Moz) deposit 80km to the SE on the same structure.

Local geology and historic sampling strengthen the targeting thesis. Specifically, the presence of intrusives of the type proximal to all other major deposits in the belt, as well as anomalous gold in geochemical sampling from Soviet era 200K reconnaissance surveys.

An additional belt-scale feature that supports Alakol's prospectivity is deposit spacing across the gold belt is uncannily regular at 82km \pm 5km. Five of the six largest deposits in the belt hosting some 31 Moz follow this rule. Alakol occurs at 82km \pm 5km distance from all *four* of the nearest large deposits. This spacing fits findings of a study ([Doutre, 2018](#)) that showed major orogenic gold deposits globally occur at regular intervals of 35 to 40km. While spacing alone would not justify ground selection, combined with strong structural, geologic and geochemical support, this does add particular interest to the Alakol license. It should be noted that Pallas' Sulukol license itself also occurs 40km from the 11 Moz Bestobe deposit.

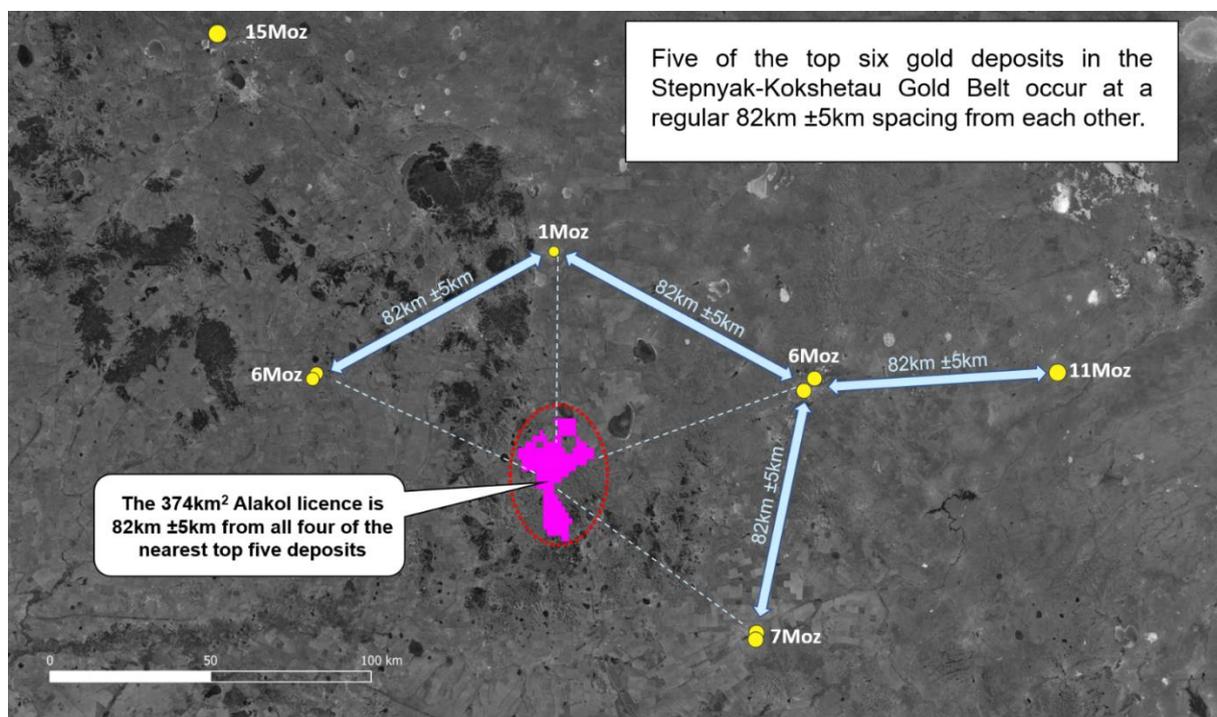


Figure 3: Regular Spacing of major gold deposits in the Stepnyak-Kokshetau Gold Belt supports the prospectivity of the newly granted Alakol licence.

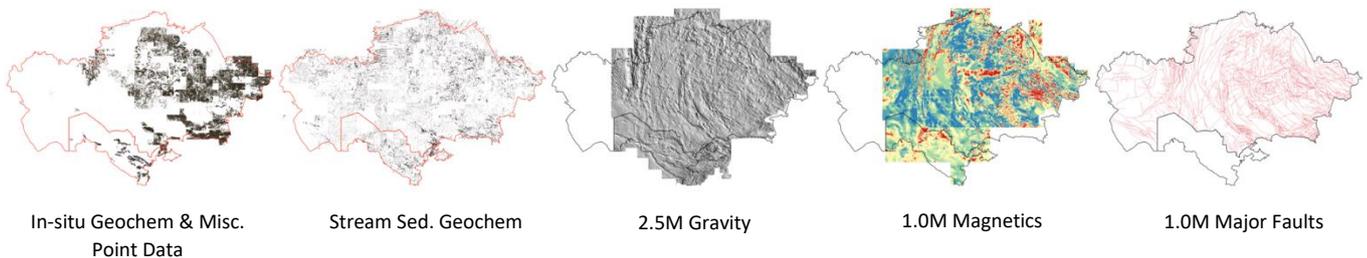




Use of Newly Digitized Generative Layers in Targeting

Since incorporation, Pallas has worked extensively to source, collate and digitize datasets across Kazakhstan and Uzbekistan. These datasets were critical in the target selection process. Key country-wide datasets digitized to date include:

- » 200K Scale Map Sheet Geochemical Data including stream sediments, in-situ sampling, occurrences and deposits and drilling (see announcements [here](#) and [here](#))
- » 2.5M Scale Map Gravity
- » 1.0M Scale Map Magnetics
- » 1.0M Scale Structural Map



Ground Acquisition in Keeping with Pallas Strategy in Kazakhstan



Pallas was founded to take advantage of world class potential in under explored mineral belts. We leverage a strong generative team to employ a targeted discovery thesis on the hunt for Tier 1 deposits. We're focused on a belt-scale approach in regions where there is minimal competition to entry, allowing the Company to acquire large land positions. The acquisition of Alakol and Sulukol is in keeping with this strategy, providing the following exposure:

- » A district scale position in a world-class gold belt (>45Moz historic endowment) within a region that hosts over 250 Moz.
- » A clear gap in the application of modern exploration techniques, with a lack of grassroots exploration in Stepnyak-Kokshetau Gold Belt extending back 40 to 50 years in most cases.
- » Extensive historic datasets (compiled and digitized by Pallas) as well as detailed Soviet era exploration reports.



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- » Licences granted on a 100% basis to our wholly owned Kazakh subsidiary (Ibex Resources LLP) under the newly modernized 2018 Kazakh Mining Code, which was modelled on Western Australia's mining legislation.

The Company continues to progress several additional district-scale opportunities including in the Chu-Sarysu sediment hosted copper basin, home to the 22MtCu Dzhezkazgen deposit (see **announcement**).

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