



**CONTROLS ON MINERALISATION AT THE GALANTAS  
GOLD MINE, CAVANACAW, OMAGH, COUNTY  
TYRONE, NORTHERN IRELAND**

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## 1. SUMMARY

New geological information, obtained during the development of the Cavanacaw Mine, has potential to impact future mine operations and enhance future exploration activities. Recent underground mapping and sediment probe sampling has led to the discovery of 'zones' of favourable mineralisation within the complex vein system. The frequency and predictability of these dilation zones is investigated and explained in the context of the local geology, herein. Ultimately a better understanding of the geological controls will influence the mine plan, enable areas of higher gold accumulation to be targeted, and inform ground support procedures.

The Cavanacaw Mine is located approximately 5 kilometres from Omagh, County Tyrone, Northern Ireland. It is situated on freehold land owned by Flintridge Resources Ltd. (FLR), or other wholly owned subsidiaries of Galantas Gold Corporation. Flintridge Resources holds a Mining License for gold and silver from the Crown Estate Commissioners (CEC) and Exploration Licences from CEC and the Department for the Economy Northern Ireland (DfE), the latter over approximately 439 sq. kms. Additionally, sister Company, Omagh Minerals Ltd. (OML) holds Exploration Licences in the Republic Of Ireland, contiguous with its licences in Northern Ireland.

The mine has good access by public road and is approximately a 1.5 hour drive west of Belfast. The mine is located on rough agricultural land.

ACA Howe International Ltd (ACA Howe), in an independent Technical Report On The Omagh Gold Project, Counties Tyrone and Fermanagh, Northern Ireland - Parker and Pearson August 10<sup>th</sup> 2012 (Howe 2012) gave the following historical context and geological description:-

*The occurrence of gold in the Sperrin Mountains in Northern Ireland has been known for centuries but no mining operations have taken place prior to that at Cavanacaw. Following the discovery of vein gold at Curraghinalt by Ennex International in the mid 1980's, Riofinex North Ltd (Riofinex) commenced exploration of an area of similar rocks located south-west of Omagh which led to the discovery of the gold bearing Kearney vein structure and the surrounding swarm of veins at Cavanacaw. The deposit was evaluated by stripping of overburden and carrying out intensive channel sampling of the exposed vein and by diamond drilling.*

*In 1990, the Riofinex project was transferred to Omagh Minerals (OML) who commissioned metallurgical, mining and environmental studies. In 1997, European Gold Resources Inc (EGR) acquired Omagh Minerals (OML) who re-excavated the open cut*

*on the Kearney structure and carried out selective mining trials at the southern end of the Kearney structure to extract high grade ore and produce gold bullion and jewellery under the Galantas brand name.*

*In 2003, EGR commissioned ACA Howe to prepare a technical report in compliance with Canadian NI 43-101 and to carry out a compilation of exploration data over the Lack inlier. The study identified twenty-four exploration targets. Follow-up on these targets resulted in the discovery of gold mineralisation at Cornavarrow Burn East, where a shear zone containing disseminated pyrite and galena included a 1.5m section returning 1.15 g/t gold. European Gold Resources Inc was re-named Galantas Gold Corporation in 2004. Subsequent to a financing in the spring of 2005, Galantas initiated mine development by engaging technical staff, updating engineering design, procuring both mobile plant and processing plant equipment and removing further overburden. Construction of the ore processing plant commenced in November 2005 and mining development commenced in early 2006.*

*The mineral resources on which the Omagh Gold Project is based are hosted by a system of mineralised veins and shear structures within which more than a dozen individual deposits have been identified over a 4 sq. kms area. The most intensively studied area is the Kearney Structure, which has been diamond drill tested over its approximately 850 m length and shown to persist to at least 300 m below surface. A CIM compliant resource estimate by ACA Howe in 2008 estimated Measured resources at the Kearney vein at 78,000 t at 6.35 g.t Au, Indicated resources at 350,000 at 6.74 g/t Au and Inferred resources at 730,000 t at 9.27 g/t Au.*

*Open Pit mining at the Kearney vein commenced in 2006. By May 2012, mining was largely restricted to the northern end of the pit, mining in other parts having reached its economic limits as dictated by stripping ratio, by the property boundary and public road to the east, and by rock stockpiles to the west.*

*The Cavanacaw deposit lies within the Caledonian orogeny which extends through Scandinavia, the British Isles, Newfoundland and the Appalachians. It is hosted by rocks of Neoproterozoic age of the Dalradian Supergroup, which host similar orogenic vein deposits at Curraghinalt 27 km northeast and at Cononish in Scotland. The mineralised veins strike either north-south or northwest-southeast and are steeply dipping. Mineralisation consists of quartz veins up to (and over) a metre wide with disseminated to massive auriferous sulphides, predominately pyrite and galena with some accessory arsenopyrite and chalcopyrite. The quartz veins are commonly accompanied by clay gouge and by an envelope of sericitised pelites. A large number of regional targets have been identified by past exploration on prospecting license OMI/16. Diamond core*

*drilling was mostly HQ3 (61.1mms) size and used triple tube core barrels to ensure good recovery. Core handling, logging and sampling were carried out to best industry standards.*

Omagh Minerals Ltd (OML) transferred the exploration licence to sister company 'Flintridge Resources Ltd (FLR)', in September 2017.

Underground mine development began in 2017. The most recent phase of exploration has been facilitated by development on the Kearney vein system, providing access to a wealth of new geological data. The additional underground data has revealed a pattern in mineralisation which has been recently tested through sediment probe drilling. Detailed geological mapping and sampling of the Kearney vein system has been carried out by mine staff whilst these operations were underway, with a view to integrating new data from the resulting underground exposures with the existing geological model. The existing model is largely derived from borehole data and surface exposures. The additional underground data has revealed a pattern in mineralisation which will be presented and tested in this report.

## **2. INTRODUCTION**

The purpose of this report is to present new geological data derived from face maps in the underground development phase thus far, outline how mineralisation patterns have been tested through sediment probing, and explain new geological observations in the regional context. The report will indicate that the new evidence positively impacts the mining plan.

The report is not independent and is prepared under the supervision of R.Phelps C.Eng. MIMMM, (President & CEO, Galantas Gold Corporation), and Dr Sarah Coulter FGS MIMMM, (Senior Geologist, Galantas Gold Corporation) both Qualified Persons for the purposes of NI 43-101.

## **3. RELIANCE ON THIRD PARTIES**

The author has reviewed and relied upon independent reports, by ACA Howe International Ltd. Please note that italicised parts of this document have been drawn from previous Howe reports. The authors have also reviewed and relied upon internal Galantas Gold Corporation reports and third party reports commissioned by Galantas Gold Corporation. Additional information relied upon has been sourced from Galantas personnel.

## 4. PROPERTY DESCRIPTION AND LOCATION

### 4.1 MINERAL LEGISLATION AND LICENSING

Two licensing (Option) regimes are in place in Northern Ireland, relating to FLRs operations. One is administered by the Crown Estate Commissioners (CEC), for gold and silver. The second is administered by the Department for the Economy (DfE) of the devolved Government of Northern Ireland and covers base metals and other minerals.

DfE provides the following description of minerals licensing at [www.economy-ni.gov.uk](http://www.economy-ni.gov.uk):- “The Mineral Development Act (Northern Ireland) 1969 (“the 1969 Act”) <http://www.legislation.gov.uk/apni/1969/35/contents> vested most minerals in the Department and enables it to grant prospecting licences and mining licences for exploration and development of minerals. This licensing system is based on the provisions of the 1969 Act and on subsequent subordinate legislation. The provisions relating to prospecting for minerals are quite separate and distinct from those relating to the development of minerals. There is no automatic continuity between exploration and development work.

The legislation covers all minerals with three main exceptions (the scheduled substances):

- (i) Gold and Silver belong to the Crown Estates and were not vested in the Department,
- (ii) the few mineral deposits (mainly salt) which were being worked at the time of the 1969 Act were not vested in the Department, and,
- (iii) ‘common’ substances including crushed rock, sand and gravel and brick clays are excluded.”

Prospecting licences, from DfE and Options (formerly Crown Exploration Licences), from CEC, require agreed work programmes and can run for up to six years in two year increments. Generally drilling and other forms of exploration do not require planning consent but are regulated by statutory rules in Section 16 of the Planning (General Development) Order (Northern Ireland) 1993. Bonding arrangements are required and are in place. Mining operations need a separate Mining License and Planning Consent is required to enable the application to be made. In Northern Ireland, DfE collects royalties for base metals, where appropriate and precious metals royalties are payable to the Crown Estate.

Freehold title to the lands owned by Galantas subsidiaries, has been reviewed by Elliott Duffy Garrett (EDG), FLR’s Belfast based lawyers. The author is satisfied from past reports on title by EDG, which he has personally seen, that Galantas subsidiaries have title to its land in all material respects but the author is not an expert in such matters and

relies upon the advice of EDG. For completeness, the author notes loans from G&F Phelps Ltd (a company related to the author) and to a loan Ocean Partners UK Ltd., both of which are secured against property

#### 4.2 LOCATION

The Cavanacaw Mine is located 5 kilometres west/south-west of Omagh, at approximately latitude  $54^{\circ} 35' 00''$  north and longitude  $7^{\circ} 22' 50''$  west. Related to the Irish National Grid, which is used for topographic and exploration data, this is the equivalent of IH 40046E and 70748N. FLR holds an estimated 220 acres of freehold land.

#### 4.3 FLINTRIDGE RESOURCES LTD LICENCES

Galantas Gold Corporations owns, through FLR, exclusive exploration rights for gold, silver, base metals and other minerals, over the Northern Ireland licence areas shown in Figure 1.

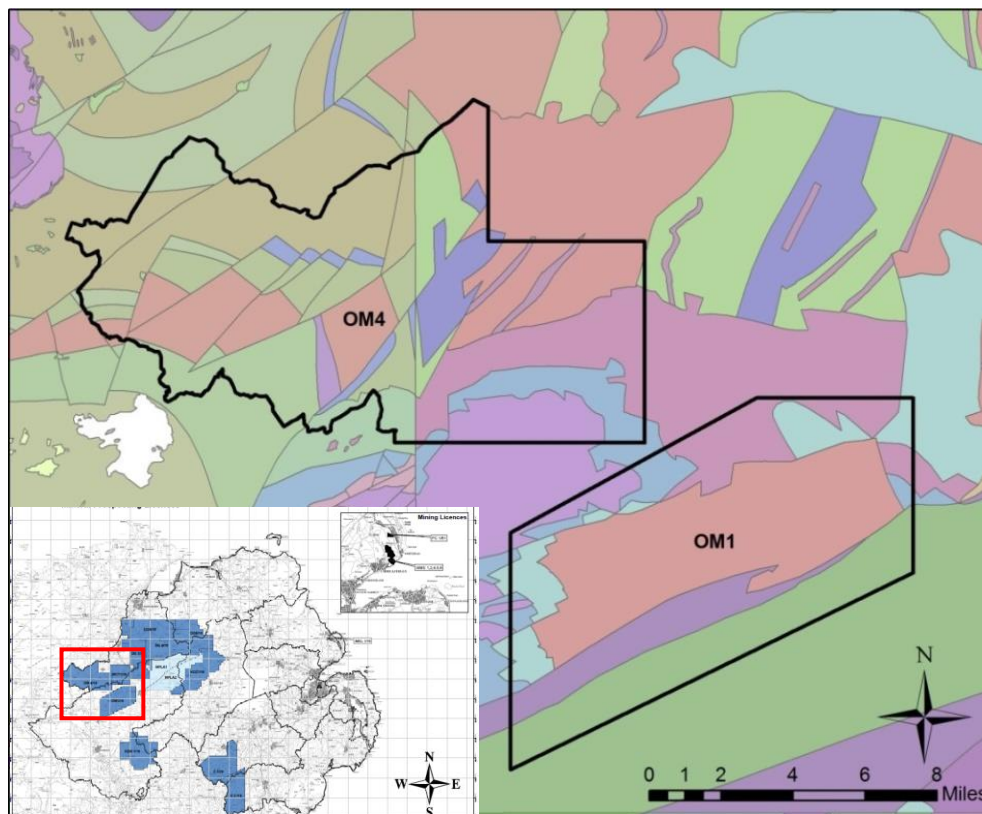


FIGURE 1: Flintridge Resources Licences in Northern Ireland. Inset map shows areas under licence, updated by DfE in January 2020.



The Mines Royal Option Agreements were renewed on 19<sup>th</sup> July 2015 (OM1) and 1<sup>st</sup> January 2015 (OM4); the Exploration Licences issued by DfE were renewed on 19<sup>th</sup> July 2016 (OM1) and 8<sup>th</sup> May 2019 (OM4).

The Crown Estate has granted a Mines Royal Mining Lease to FLR, commencing June 23<sup>rd</sup>, 2015, for a term of 15 years, for the area shown in Figure 2, covering land owned by the Galantas subsidiaries.

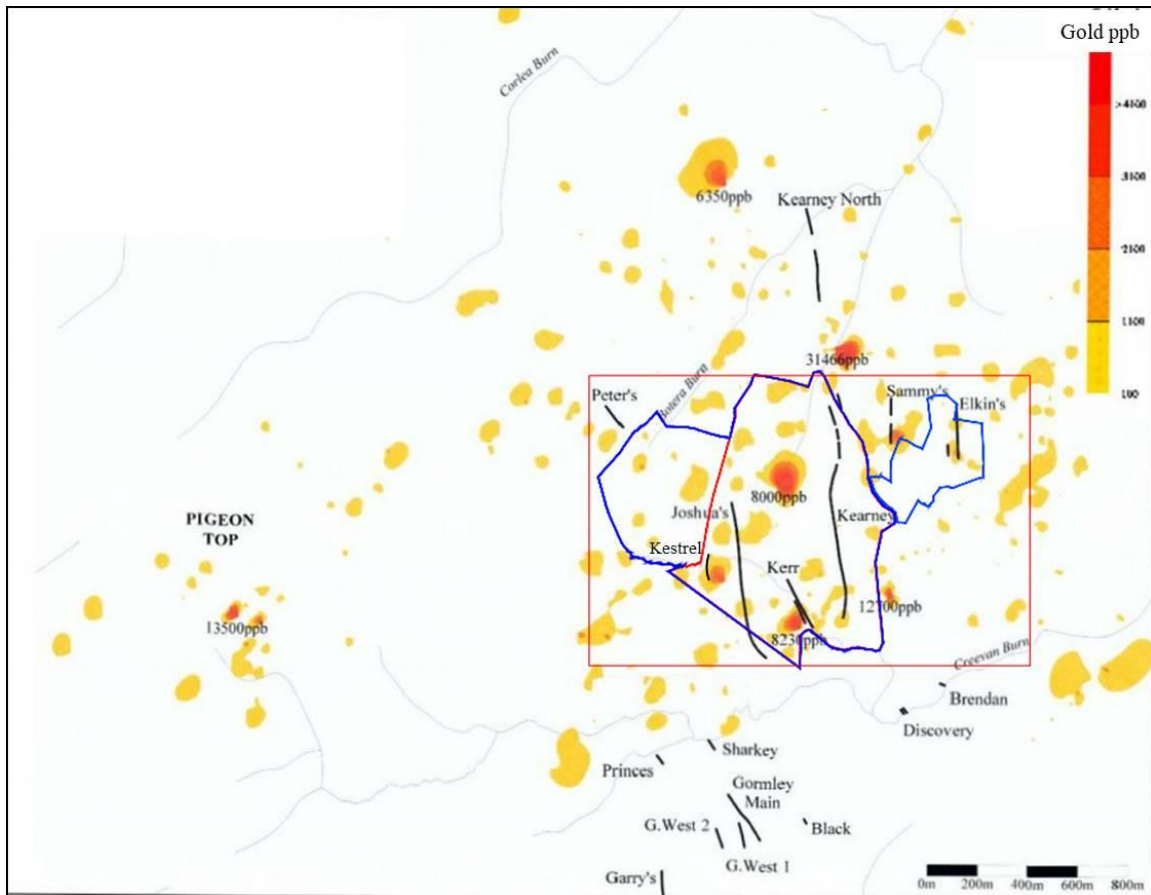


FIGURE 2: Cavanacaw project showing Freehold land (Blue outline) and Crown Mining Lease (Red outer box outline). Historic pionjar anomalies (deep soil geochemistry) also illustrated.

#### 4.4 PERMITS

The Department of the Environment for Northern Ireland (DoE NI) granted planning permission for open pit mining of gold and silver and associated minerals on certain areas of Galantas subsidiaries land in May 1995. The open pit was worked and that planning permission expired.

A planning application for an underground mine, uprated processing plant and the export of a limited quantity of country rock was submitted to the Planning Service, DoE NI, with a detailed Environmental Impact Assessment, on 6<sup>th</sup> July 2012. That planning

permission was granted on 27<sup>th</sup> July 2015. The planning permission permits underground work in the central area of land ownership and includes the Kearney, Kerr and Joshua veins.

Discharge Consents are held for mine waters from DoE NI, via the Northern Ireland Environment Agency (NIEA). The company and NIEA monitor flows from the mine and the authors note that the results are routinely within the limits imposed. A detailed compliance check on the consent conditions relating to ground waters and surface waters from the property was passed by NIEA and recorded as such on the 14<sup>th</sup> September 2011. A similar study, carried out in June 2013 also concluded compliance in all respects. Other operating permits, such as that issued by the Industrial Pollution and Radiochemical Inspectorate (IPRI), are in operation.

A study of potential for acid drainage, reported in January 2013, concluded that the country rock found at the mine is not acid forming and that some of the rocks are indicated to be potentially acid neutralising. The sampling was carried out by an independent, environmental monitoring company, Pentland Macdonald Ltd of Belfast. They undertook the collection of a representative set of 100 samples, with analysis taking place at the SGS Minerals Services Ltd laboratory in Cornwall. This extensive study is consistent with the results of earlier work, which also showed no acid generation potential. In compliance with the 2015 planning consent, a number of rock samples have been taken at varying depths in the mine and found non-acid forming.

Restoration requirements exist under agreements made with regulating authorities. The Crown Estate hold a Restoration Bond to ensure the requirements for site restoration are met.

## **5. ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY**

The county town of Omagh and the mine area are easily accessible by paved road from Belfast. The road distance is less than 100 km and takes approximately 1.5 hours. Belfast is served by two airports with domestic and international flights. Situated some 5 km from Omagh, the mine site is accessible by public paved roads. Some local roads have been recently improved, at the Company's expense, with additional passing bays, in order to improve a surplus rock haulage route. The mine site contains a concreted road to the processing plant and various unpaved roads. One upland section of the mine site is only reachable on foot.

Two power lines (33 kV and 11kV) traverse close to or on the site, however, power to the mill is generated with diesel on site.

The principal Prospecting Licence & Option (OM1/16) is situated on the south-western fringe of the Sperrin Mountains in glaciated terrain. Topography ranges from 140 m to 160 metres above sea level with rounded hills up to 330 m. Glacially derived till in thicknesses up to 18 m, provides generally low quality grazing, except where techniques such as drainage and fertility have been carried out to improve grazing quality. Farming, which is the principal local economic activity is dominated by small / medium sized operations that rely on raising cattle and sheep. Upland hills and hollows in the landscape, support peat bogs which have a history of small scale cutting for domestic fuel use. There has been some urbanisation of housing closer to the county town of Omagh, although it is understood that planning policy has in recent years restricted outwards growth further from the town. There are some small coniferous plantations for commercial forestry and one is situated on the mine site. Wind farms have been developed in the region, including one on an upland area within the western part of OM1/16, part of the mine site might be suitable for such a purpose. The opportunity exists on site, subject to planning permission, to generate power from wind and solar sources.

The climate is temperate with about 1500 mm of rainfall per annum. The usual pattern of mild winters has been disrupted in recent years by severe falls in temperature. The mine has experienced some production difficulties during very cold temperatures but the disruption has been short lived.

Omagh is a County town and hosts schools, colleges and is a local administrative centre. The standard of education locally is good, housing costs are modest compared to many areas of the UK and unemployment is a local issue following the closure of several large employers. Operators of mobile plant are available in the local workforce. There is local

knowledge of crushing and screening and local manufacturing of such equipment. Operators of the flotation plant have been trained. A number of skilled, small and medium size, engineering companies exist in the local region and the out-sourcing of a wide range of engineering and maintenance work is available.

Galantas subsidiaries have acquired freehold land over a number of years, the latest acquisition being a parcel of 52 acres in January 2012 covering part of the Joshua vein. Galantas subsidiaries holds an estimated 220 acres of freehold land, which it believes is sufficient to operate its planned underground mine.

## **6. HISTORY**

### **6.1 PROJECT HISTORY**

Aware of the potential for Dalradian rocks to host precious metals, The Geological Survey of Northern Ireland carried out mapping and geochemical surveys across the Sperrins in the 1970s (Arthurs, 1976). Following the Curraghinalt gold discovery, Riofinex commenced exploration on the Lack Inlier, a geologically uplifted block of Dalradian metasediments. The Kearney structure was discovered comparatively early in the exploration programme, the author has been told that it was concentrated upon partly because of ease of access.

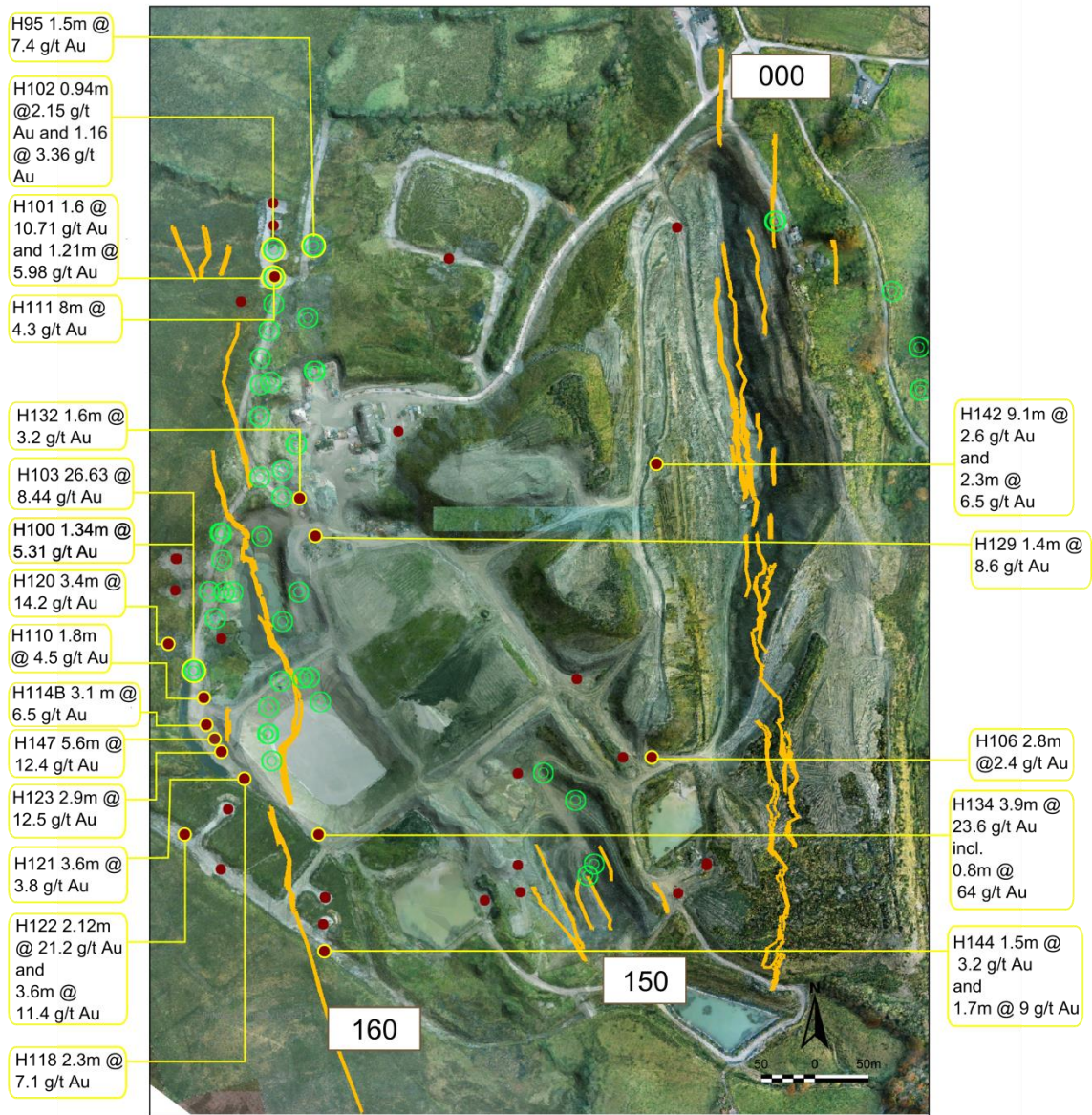
A number of exploration and resource definition methodologies were employed. These included geological mapping, which is not readily achieved given the paucity of local rock exposures. Stream sediment was panned for gold and sulphide evidence. Loose boulders were sampled. Soil samples and deep overburden samples (Pionjar) were also taken. Induced polarisation geophysical work was deployed and core drilling (size NQ) carried out. The Kearney vein was stripped and an intense channel sampling programme resumed, backed by vein mapping. A resource was assessed and a mining project scoped. Environmental baseline studies were commenced.

In 1990 Omagh Minerals Ltd. (OML) acquired the project from Riofinex and engineering studies from Kilborn Engineering Ltd, Knight Piesold and Lakefield Research. Wardell Armstrong carried out an Environmental Impact Assessment, which was completed in late 1992. The Crown Estate Commissioners entered into a Mining Lease with OML, conditional on planning consent. Following a Public Enquiry in 1993 and 1994, conditional planning consent was granted in 1995. The planning conditions were fulfilled in 2001, crystallising the consent. Further engineering studies were carried out by

Kilborn in 1995. In 1997, European Gold Resources of Ontario acquired OML. OML excavated a section of the Kearney structure, to the north of the Riofinex trench, and mapped and sampled in a similar manner to Riofinex. ACA Howe carried out stream sediment sampling they also digitised and consolidated the resulting geochemical data.

In 1998, Lakefield Research completed further metallurgical and environmental studies. In 2000 and 2001, OML carried out selective mining trials and produced a high grade, sulphidic ore. Following specialist laboratory treatment to separately recover the gold, the bullion was made into 18 ct jewellery with accreditation of the Irish gold source and test marketed under the Galantas brand name. In 2003 EGR commissioned ACA Howe to analyse Landsat satellite imagery over the whole of the Lack Inlier and to integrate with other exploration data using MapInfo software. Resulting reconnaissance sampling, mapping, data compilation and interpretation was carried out subsequently (ACA Howe 2004A). Twenty-four exploration targets were identified. European Gold Resources was renamed Galantas Gold Corporation (Galantas) in 2004. Following a financing in early 2005, Galantas commenced open pit development. During the summer of 2005, Galantas contracted Geotech Airborne Ltd to carry out an airborne time domain electromagnetic (VTEM) and magnetic survey over the Lack Inlier. The results identified new geophysical targets and helped prioritise existing targets. In December 2005, ACA Howe studied the resource potential of all targets and ranked them. Eight vein structures, including Kearney and Joshua veins were ranked as having good potential for upgrading of the reserves and resources previously enumerated. Galantas started to build the ore processing plant in November 2005 and commenced mining development in early 2006. Mining continued until 2012, over 30,000 troy ounces of gold was produced during the open pit phase.

Significant exploration took place within licence OM1/16 between 2011 and 2016, with a total of 20,950 m of diamond drilling and detailed channel sampling programmes completed over the Joshua, Kerr and Kearney vein systems. The drilling campaigns were designed to increase the known extent of the Joshua vein to the north and test the depth of the Joshua and Kearney veins. Figure 3 highlights some of the key vein intersects recorded during the 2011-2014 drilling phase. The Galantas Gold Corp. June 2014 Technical Report (available on [www.galantas.com](http://www.galantas.com) and [www.sedar.com](http://www.sedar.com) ) contains details on exploration and open pit mining up to that date.



Kearney, Joshua and Kerr vein trace with recent hole intersects

FIGURE 3: Significant vein intersects on Kearney, Joshua and Kerr.

\*Note that these are down-hole measurements and cited widths have not been converted to 'true widths' (corrected according to dip of hole).



## 6.2 HISTORICAL ESTIMATES OF MINERAL RESOURCES AND RESERVES.

Historical resource estimates were independently commissioned in 1995, 2004, 2008 and 2012, details of these can be found in the 2014 Technical Report. The most recent resource estimate was carried out by Galantas and published to PERC Code in 2014 (Table 1). Were the CIM Code used for the resource estimation, the estimate would be the same. Overall there was a 60% increase in resources since the last independent estimate (Howe 2012) of resources, from 326,000 ounces of gold (Howe 2012) to 521,109 ounces of gold (Galantas 2014). The increase in resources identified in the Galantas 2014 report was due mainly to drilling carried out subsequent to the Galantas 2013 report, and the process of re-stringing historical channels to drill core intersects.

RESOURCE CATEGORY	CUT-OFF 2 g/t Au		
	TONNES	GRADE (Au g/t)	Au Ozs
<b>MEASURED</b>	138,241	7.24	32,202
<b>INDICATED</b>	679,992	6.78	147,784
<b>INFERRED</b>	1,373,879	7.71	341,123

TABLE 1: Total resource estimate, Galantas 2014.

**Minerals Resources that are not Mineral Reserves do not have demonstrated economic viability.**

## 6.3 DRILLING SINCE 2014 RESOURCE ESTIMATE

A short drilling program was commenced in 2015 and a summary of results was reported on 25<sup>th</sup> January 2016. The program generally targeted the Joshua vein at depth. Most notable was hole OML-DD-15-155 which intersected a wide zone (13 m true width) of the Joshua vein at a vertical depth of 117 m grading 9.9 g/t Au. Drill Hole OM-DD-15-154 intersected high grade mineralisation ~70 m from the Joshua ore body, leading to the discovery of the Kestrel vein.

## **7 GEOLOGICAL SETTING AND MINERALISATION**

Further to the Galantas 2014 Technical Report, advancements in understanding of how the on-site mineralisation ties in with local geological controls have recently been made. This progress has been aided by detailed geological observations made during underground development. A summary of the geological context pertinent to the findings presented in this report follows below.

The Kearney main vein is a north-south strike slip fault with a sinistral displacement. Maps from an early trenching phase, carried out by RioFinex in the 1980s, highlight the structural complexity of the vein (Cliff & Wolfenden, 1992). The Kearney and Joshua faults are interpreted as through-going P-shears with subsidiary Reidels (R1) orientated north-north-west (J. Arthurs pers. comm.) Evidence for subsidiary Reidels is found in the decline, the 1072 and 1060 m levels.

The Omagh Thrust (OT), which transported Dalradian rocks to the south-southeast over the Tyrone Igneous Complex, is a major structure which sits approximately 1 km south of the mine site. The plane of the OT dips at a low angle to the north-northwest. A detailed mapping project conducted in the Creevan Burn area, directly south of the mine site, was carried out by Galantas geologists in 2016. A conceptual structural model was constructed and indicates that a thrust stack, rooted in mica and graphitic schist, forced graphite at the OT upwards causing it to occur at depth on site (Figure 4). It is believed that the upward extension of these deep-seated imbricated thrusts may have formed precursor deformation planes later exploited by the Creevan Burn Shear (Figure 4). Field evidence in the Creevan Burn area suggests multiple episodes vein formation and shearing.



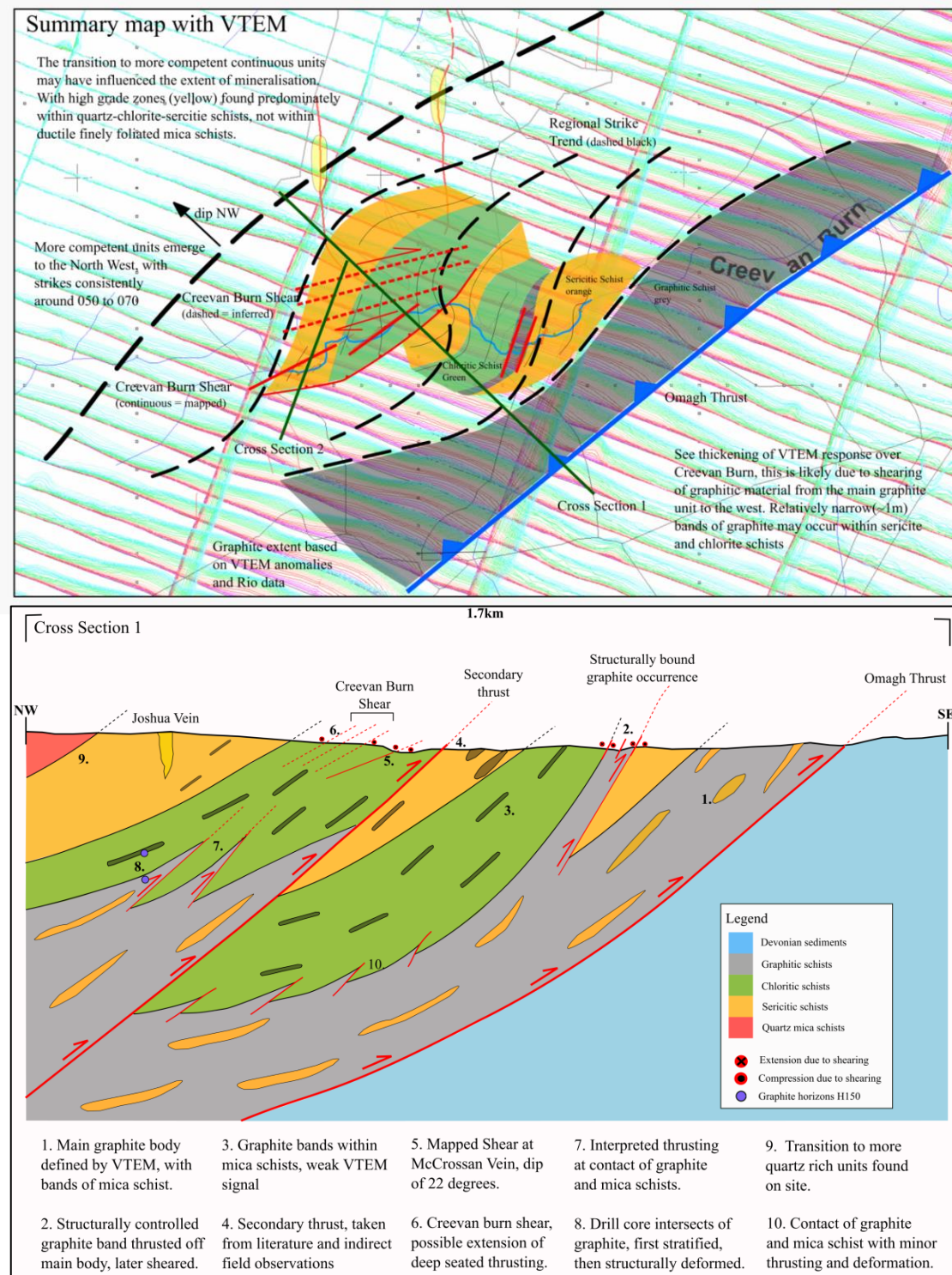


FIGURE 4: Summary map showing the location of the Kearney and Joshua veins relative to the main lithological changes, structural trends, and VTEM (a time-based electro-magnetic sensing system) anomalies depicting near surface graphite. Cross section 1 is marked (top) and detailed in the figure directly beneath, which provides evidence in support of a stacked thrust system.

## 8 EXPLORATION

A thorough review of the exploration that has been conducted on the Cavanacaw project is presented in the Galantas 2014 Technical Report. The reader will find exploration targets, methodologies, results and data verification in the 2014 publication and references to independent reports therein.

Exploration conducted during the initial development phase of the underground mine is summarised below and in Appendix A; sampling methods and approach can be found in Appendices B and C.

### 8.1 NEW UNDERGROUND MAPPING DATA

The underground development now exceeds 2 km (Figure 5). Access to exposure has provided essential detailed geological data which has recently been consolidated and analysed. Whilst the veins can be traced over some hundreds of metres, pinching and swelling of the mineralised zone can happen at short intervals. Crucially, these intervals are often smaller than the drill grid spacing assessed as required for global estimation purposes. A decrease in drill grid spacing below a <25 m spacing is commercially impractical so new underground observations and analyses have proven invaluable.

The key underground observations can be summarised as follows:

- Relatively wider sections of mineralisation, **dilation zones**, on each level can be correlated on shallow north dipping planes.
- Intersection of narrow stringers trending approximately north-north-west.
- Structurally complex faces in the main ore drives.
- Q-values which represent ground stability have marginally increased with depth (Appendix A). This may be explained by a reducing influence from the geo-technical effect of the former open pit.

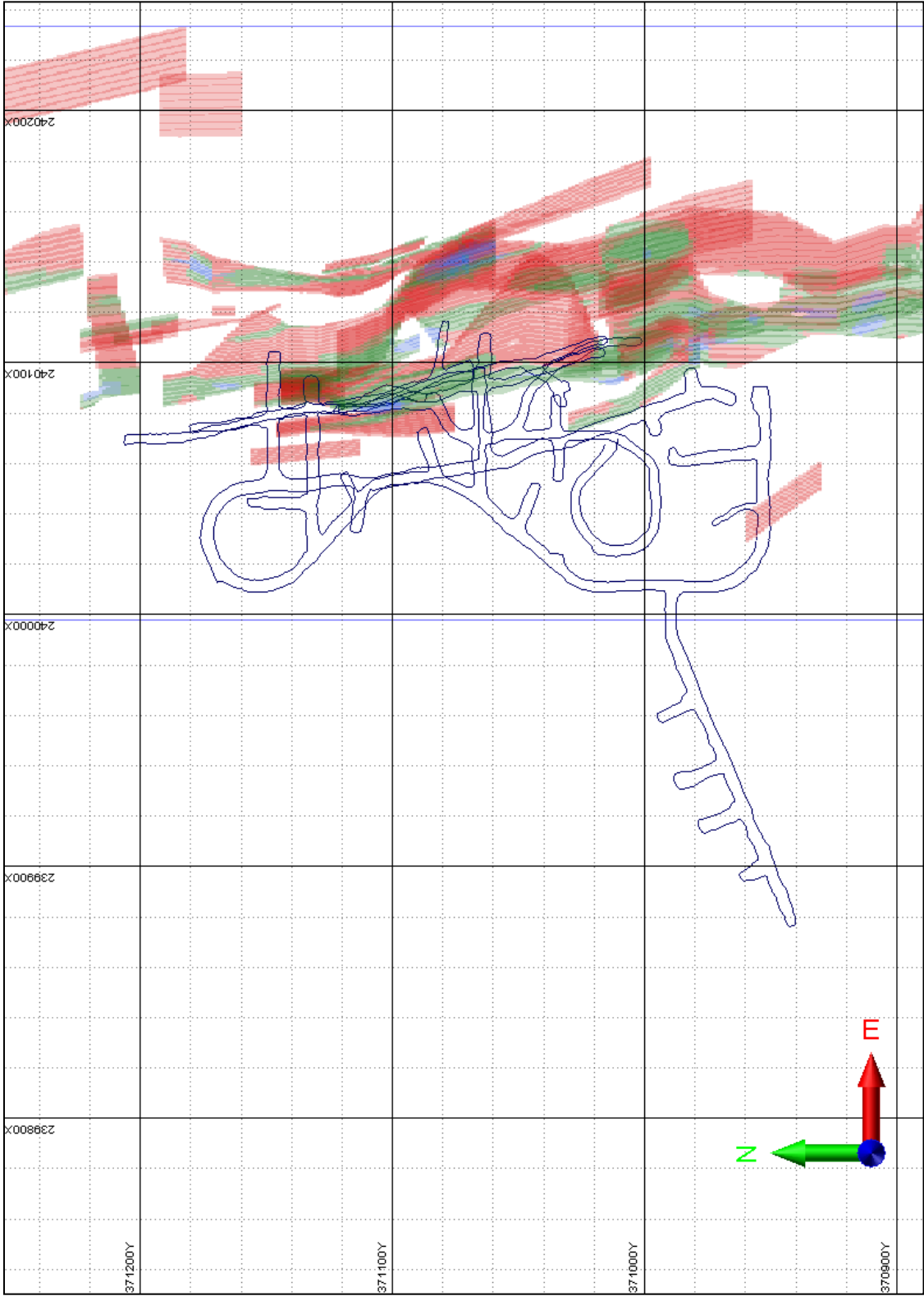


FIGURE 5: The extent of mine development (November 2019). Block model shown with colour coded resource: red – Inferred, green – Indicated, Blue – Measured.

### *8.1.1 DILATION ZONES*

Detailed plan maps indicate vein swelling and marginal gold grade increases in predictable zones along ore drives in the first four levels of the mine development, between 371000 and 371110 N. Spatial analysis shows that the more favourable zones can be linked on planes with a shallow dip (~20°) towards the north, and occur approximately every 55-65 m along the strike of the vein. This infers an approximate west-southwest to east-northeast strike to coincide with the regional trend. Plan maps have been compiled to show mineralisation widths for the four levels (Figure 6).

The dilation zones have been demonstrated, by mapping, to be present on the 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> levels and demonstrated by probe drilling on the fifth level. Mine development on the first level does not extend fully into the predicted areas. The correlation between levels appears stronger to the south and at depth. Long sections have been constructed to illustrate the regular occurrence of wide mineralisation (Figure 7a); these zones are often associated with areas of higher gold grade as shown in Figures 7b and c. The method used to collect and analyse grade control samples within the mine is provided in Appendix B. It should be noted that estimates of grade have been employed in this program.

The Kearney vein is found to bend within and just prior to the dilation zones, supporting the case for lateral movement on the north dipping planes. The width of the ore body can range from 1 m to >3 m. A dilation zone in the 1060 ore drive contains quartz breccia over 3 m. The mineralisation varies from semi-massive to massive across the face and between blasts. The quartz breccia is lined by bands of black and green-grey clay defining the hanging wall and footwall, grades are typically high.

Dilation zones hold higher gold accumulations (width and grade) and an ability to identify these in advance of physical development has important positive implications for mining efficiencies and costs. To further test the pattern of dilation zones a sediment probe programme was devised and is summarised in Section 9.





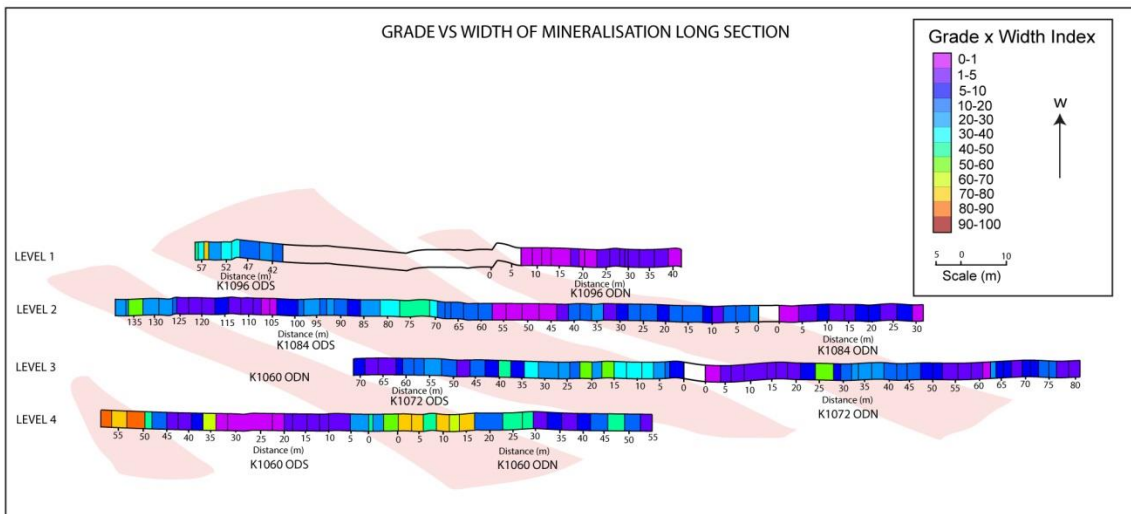
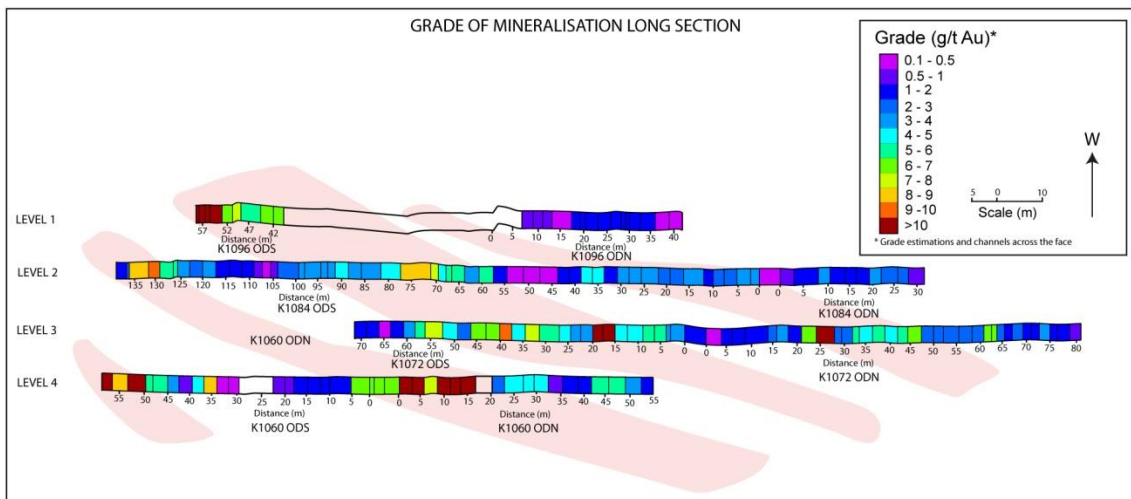
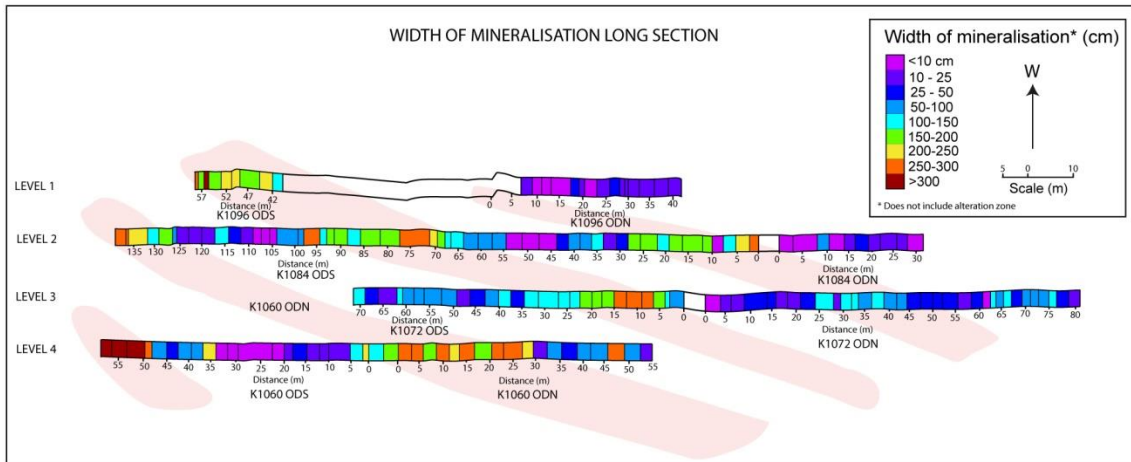


FIGURE 7a (top): Long section depicting widths of mineralisation, and connecting dilation zones between mined levels  
 FIGURE 7b (middle): Grade estimates in long section across 3 metre width of development.  
 FIGURE 7c (bottom): Calculated Index of estimated grade x width.

## 9 SEDIMENT PROBE DRILLING PROGRAMME

Probe drilling began on the 1072 level on 6<sup>th</sup> November 2019. Details of the drilling programme and sampling procedures can be found in Appendix C. To date, 43 holes have been completed; the key locations are shown in Figure 8. The aims of the probe drilling programme were as follows:

- To explore for structures parallel to the main vein to the east.
- To test how accurately the occurrence of dilation zones can be predicted along the main Kearney vein by finding additional zones.
- To define known dilation zones.
- To prove continuous mineralisation within a dilation zone.

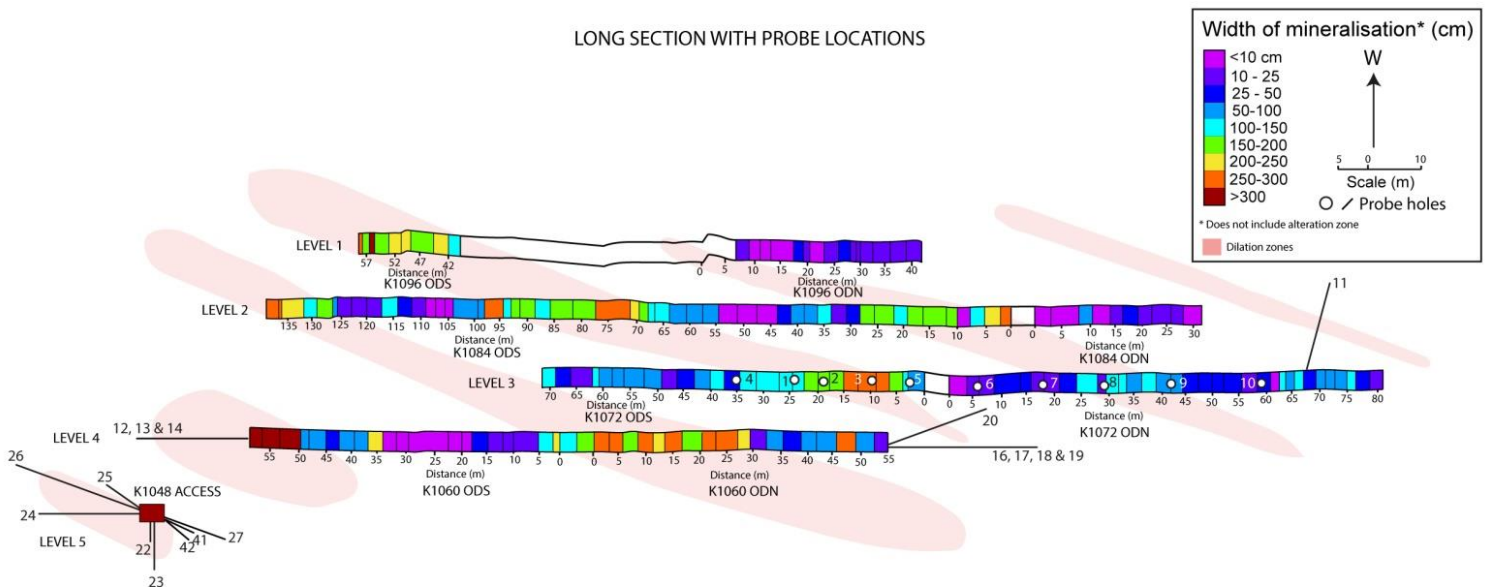


FIGURE 8: Locations of key sediment probe holes in long section.

Probes 1-10 targeted modelled mineralised structures to the east of the main Kearney structure on the K1072 level (Figure 9). Probes 6, 7 and 8 intersected mineralisation within an inferred dilation zone. The most promising results were seen in Probe 6 between 24-27 m where favourable dark returns contained sulphides and quartz breccia for 3 m. The mineralisation found in this area can be linked with a dilation zone in the main Kearney system, following a north-east trend. As expected, holes 1-5, 9 and 10 returned waste.

Based on the consistent frequency of the dilation zones, it was predicted that another dilation zone would be present to north of the main development. Probe 11 was angled at 75° into the roof close to the end K1072 Ore Drive North (ODN) (Figure 8, Appendix C

Fig. D). The probe encountered black water returns alongside visible mineralisation in the cuttings at 8-9.5 m, in line with the predicted pattern. This provides strong support for the regularity of the dilation zones along the main Kearney vein.

Given the position of the access into new (fifth) level K1048, a dilation zone was expected in the initial drive. This was confirmed in the development. There are currently six proven dilation zones which control width along the Kearney vein system. It is considered likely that the feature is repeated across the entire Kearney vein system and the adjacent vein systems (Joshua, etc).

Sediment probing on the K1060 and K1048 levels focussed on defining dilation zones within the main lode. Development in the K1060 ODN stopped approximately 10-15 m short of a predicted dilation zone, for which there is evidence in both the K1084 and K1072 levels. Probes 16-20 were drilled at the end of the tunnel and probe 20 confirmed the presence of mineralisation beginning approximately 9-10 m from the current face, which is in line with evidence for a dilation zone in K1072 Ore Drive South (ODS) above (Appendix C Fig. E).

Probe holes 12-14 were drilled into the end of the K1060 ODS drive to further define the dilation zone (Appendix C Fig. F). Probes 13 and 14 suggest that the dilation zone continues for 12 m before the ore body pinches out to waste, which also supports the predicted pattern.

Probes 21-28 were drilled in the K1048 access. Probe 24 directed into the south wall showed black returns for 14 m, this fits with predicted dilation zone width (Appendix C Fig. G). Probes 22 and 23, angled into the floor, show that the dilation zone extends at least 7 m down dip (Appendix C Fig. H).

Probes were also drilled in the walls of the K1048 access at a dip of +20 south and – 20 to the north, along the strike of the dilation zone to prove the continuity of mineralisation (Appendix C Fig. G). Probe 26 followed the approximate dip of the dilation zone and returned continuous mineralisation for 20 m. Probes 27, 41 and 42 were drilled to the north. Various strikes and dips were tested, however, there was no evidence of extensive mineralisation. Results to the north suggest a possible strike swing, consistent with mapped observations elsewhere in the development.

The probe programme was fundamental in proving and defining dilation zones in the Kearney vein system. Future drilling aims to test the parameters of the new dilation zone detailed earlier, the most northerly zone identified so far; and prove that mineralisation is continuous along 20° north dipping planes.



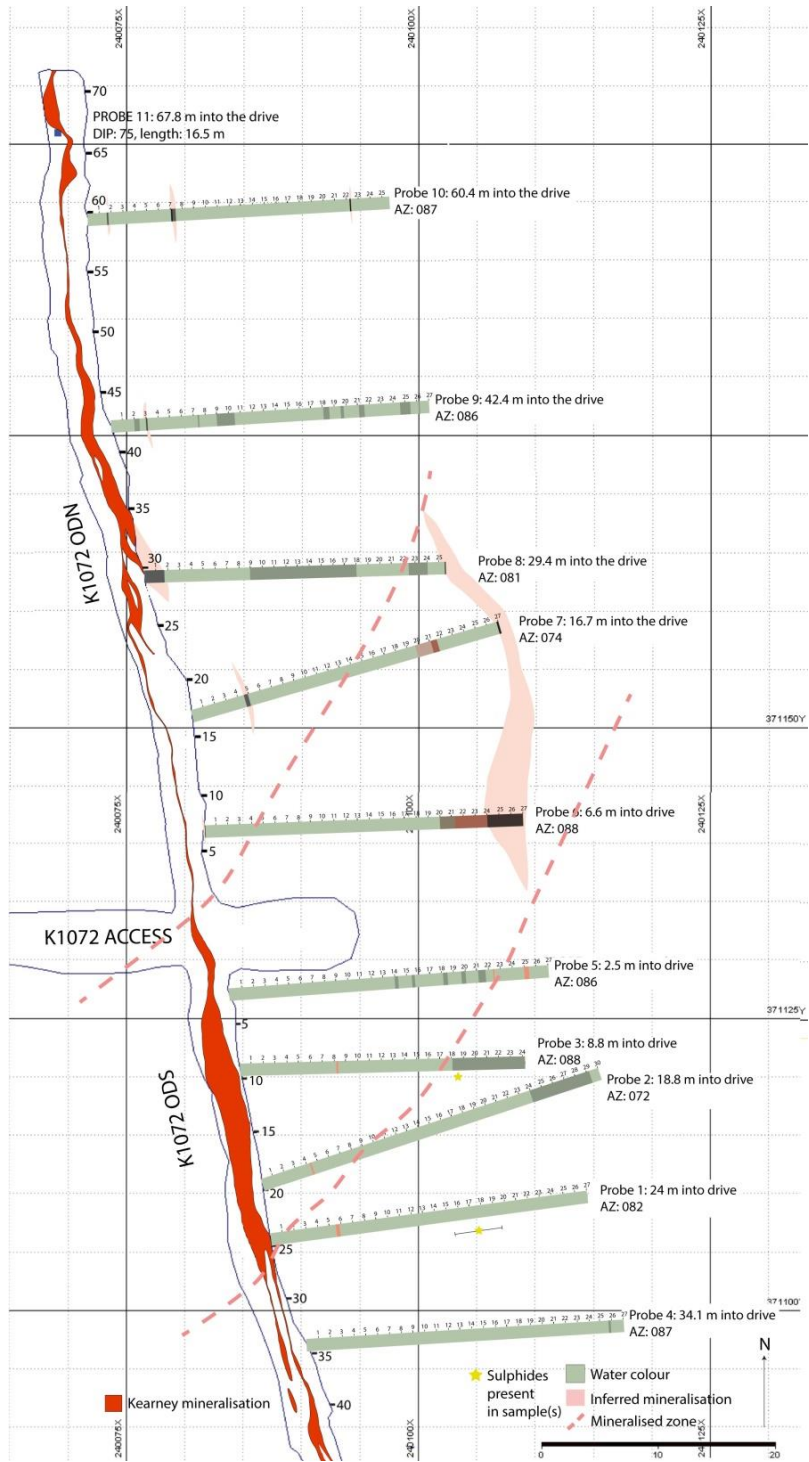


FIGURE 9: Plan of the K1072 level showing the mapped dilation zone, and location of sediment probe holes testing the modelled mineralised structures to the east of the main Kearney vein.

## **10 HISTORIC DRILL CORE AND CHANNEL SAMPLE EVIDENCE**

Drill core assays and historic channel sampling maps were assessed to explore whether the broad patterns of mineralisation identified underground were supported by this larger scale dataset. Similarly wide sections of mineralisation revealed in drill core can be linked on north dipping planes in the main Kearney and Joshua veins. Furthermore, the Kearney intersects tie in with mapped dilation zones of the underground development. Some of the deeper drill cores intersect graphitic schist. This is a reasonably well defined horizon which dips at a low angle to the north, and outcrops in the Creevan Burn area. The upper contact of graphitic schist is shown for 15 holes across the site (Figure 10).

## **11 INTEPRETATION**

Wider sections of mineralisation occur on shallow north dipping planes. The dilation zones appear regular and may be tied in a more regional context to the initial south-east directed thrusting.

It is likely that the ore shoots depicted in Figure 6, and supported by drill core, are controlled by pre-existing bedding and that these weaknesses have been exacerbated as a result of thrusting nearby. The most favourable mineralisation is concentrated along the hanging wall of inferred thrust surfaces (Figure 11). Earlier movement across these structures exerted a bigger influence on the pattern of mineralisation towards the south, closer to the Omagh Thrust, thus creating more clearly defined dilation zones such as those shown at the end of levels 1084 and 1060. The occurrence of graphitic schist at depth appears to follow a similar pattern as the thrusts, providing further support for the interpretation; however, few of these data points exist as most drill holes were not sufficiently deep to record graphite.

The overall geological assessment gives rise to an expectation that the thrust stack continues north and that several north dipping planes, associated with the original thrusting, have been reactivated during and following the main episode of mineralisation. High strain between intersecting faults, resulting in increased permeability, would concentrate fluid flow and ultimately result in wider zones of mineralisation, such as those found at predictable intervals in the underground development. It is likely that similar structural considerations may apply to all the veins identified within the vein swarm, thus expanding the resource potential of these structures.

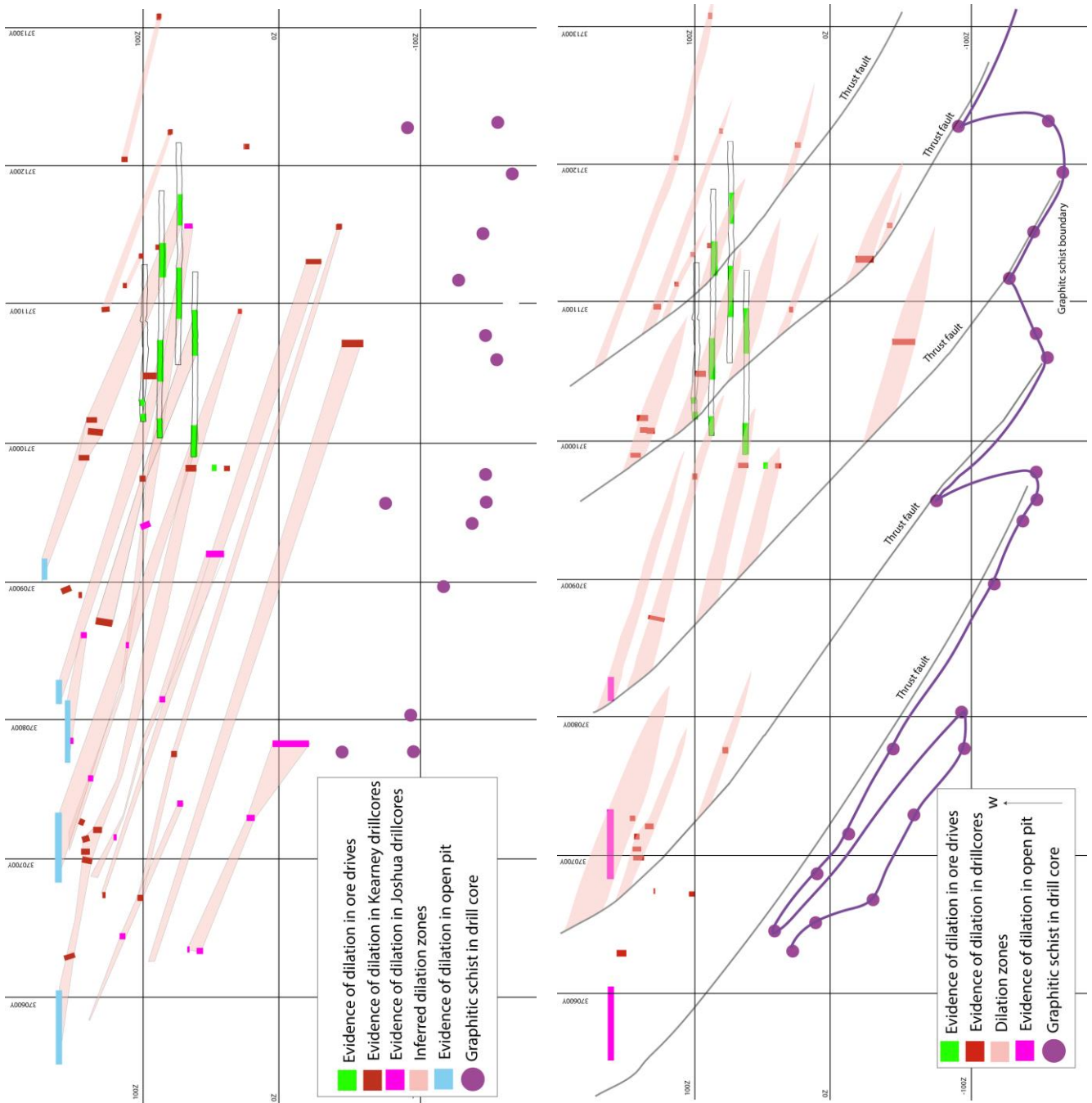


FIGURE 10 (Top): Summary diagram showing the location of relatively wide sections of mineralisation in drill core and dilations in surface exposures. FIGURE 11 (Bottom): Geological interpretation showing possible thrust fault

### 11.1 IMPACT ON THE UNDERGROUND MINE PLAN

The geological interpretation positively impacts the underground mining plan. It potentially assists in identifying parts of the vein system with high potential for elevated gold accumulation and conversely areas where gold accumulation may be sub-economic. Potentially this may give rise to opportunities to increase the overall gold grade of mined tonnage and decrease the tonnage of mined vein below cut-off grade. The ability to

identify more accurately planned areas of waste with the vein means that ground stabilisation measures are enhanced and overall costs potentially reduced.

## **12 ACKNOWLEDGEMENT**

The ideas and contribution by John W. Arthurs EurGeol, CGeol, PGeo, MSc, DIC, DMS, MIMMM, Dip.Exec.Coaching, towards on going local geological research, is gratefully acknowledged.

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## **14. CERTIFICATES**

### CERTIFICATE

a) Dr Sarah Coulter, Galantas Gold Corporation, 82 Richmond Street East  
Toronto, Ontario, Canada M5C 1P1

b) I, Sarah Coulter, B.Sc. (Hons), M.Sc, PhD, FGS, MIMMM as co-author of this report entitled “Controls on Mineralisation at the Galantas Gold Mine, Cavanacaw, Omagh, County Tyrone, Northern Ireland”, prepared for Galantas Gold Corporation and dated 23<sup>rd</sup> April 2020, make the following statements :

c) I was admitted to the degree of Bachelor of Science (Honours) in Environmental Geoscience, from the University of St. Andrews, Scotland on 21st June 2001, I was awarded Master of Science in Quaternary Science from Royal Holloway, University of London on 1<sup>st</sup> November 2002 and was admitted to the Degree of Doctor of Philosophy from Queen’s University Belfast on 13<sup>th</sup> December 2007. I was elected a Fellow of the Geological Society of London on 1<sup>st</sup> February 2012; and was awarded Professional Membership of the Institute of Materials, Minerals and Mining (with Minerals Resources and Reserves Reporting) on 22<sup>nd</sup> January 2018. I have practiced as a geologist in Minerals Exploration for 8.5 years. I am a “Qualified Person” for the purposes of National Instrument 43-101.

d) I am based at the property, currently part-time, and have been onsite at least 20 days specifically during the period covered by this report.

e) I acknowledge the co-authorship of R. Phelps C.Eng., B.Sc(Hons), MIMMM (President & CEO, Galantas Gold Corporation), and Z. Brown MGeol, FGS, Underground Geologist, Flintridge Resources Ltd and L. Briggs B.Sc, M.Sc, Exploration Geologist, Flintridge Resources Ltd in the preparation of this report. Jointly with R. Phelps, I act as a “Qualified Person” for the whole of this technical report.

f) I am not independent of the Issuer.

g) I have worked at the property since 2011 in the role of Senior Geologist.

h) I have read, and consider the report compliant with PERC and where applicable with National Instrument 43-101 and Form 43-101 F1.

i) The purpose of the report is to document geo-technical information of relevance to the issuer which has been acquired during underground development. I consider that, at the effective date of the technical report, to the best of my knowledge and belief, the technical report contains all material scientific and technical information that is required to be disclosed to make the technical report not misleading.

j) I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their website accessible by the public.

Dr Sarah Coulter B.Sc(Hons), M.Sc, PhD, FGS, MIMMM Senior Geologist, Galantas Gold Corporation



Dated: 28<sup>th</sup> April 2020

#### CERTIFICATE

a) Roland Phelps, Galantas Gold Corporation, 82 Richmond Street East  
Toronto, Ontario, Canada M5C 1P1

b) I, Roland Phelps, C.Eng., B.Sc. (Hons), MIMMM as co-author of this report entitled “Controls on Mineralisation at the Galantas Gold Mine, Cavanacaw, Omagh, County Tyrone, Northern Ireland”, prepared for Galantas Gold Corporation and dated April 2020, make the following statements :

c) I was admitted to the degree of Bachelor of Science (Honours) in Mining Geology Combined, from the University Of Leeds, England on 22nd July 1976. I was elected a Member of the Institution of Mining and Metallurgy on 15th May 1980. I was elected a Member of the Institution Of Mining Engineers on 23rd January 1980. I am a Chartered Engineer and Registrant of the Engineering Council (Registrant No. 316051) and a Member of the Institution of Materials, Mining and Metallurgy. I have practiced as a geologist and mining engineer in Minerals Exploration, Resource Development and Mine Development for over 40 years. I am a “Qualified Person” for the purposes of National Instrument 43-101.

d) I have visited the property routinely since 2000 and at least 20 days specifically during the period covered by this report.

e) I acknowledge the co-authorship of Dr. S. Coulter B.Sc(Hons), M.Sc, PhD, FGS MIMMM(Senior Geologist, Flintridge Resources Ltd), and Z. Brown MGeol, FGS, Underground Geologist, Flintridge Resources Ltd and L. Briggs B.Sc, M.Sc, Exploration Geologist, Flintridge Resources Ltd in the preparation of this report. Jointly with Dr. S.Coulter, I act as a “Qualified Person” for the whole of this technical report.

f) I am not independent of the Issuer.

g) I have had routine involvement with the property since 2000, in a technical and managerial capacity.

h) I have read, and consider the report compliant with PERC and where applicable with National Instrument 43-101 and Form 43-101 F1.

i) The purpose of the report is to document geo-technical information of relevance to the issuer which has been acquired during underground development. I consider that, at the effective date of the technical report, to the best of my knowledge and belief, the technical report contains all

material scientific and technical information that is required to be disclosed to make the technical report not misleading.

j) I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their website accessible by the public.

Roland Phelps, C.Eng MIMMM, President & CEO, Galantas Gold Corporation

A handwritten signature in black ink that reads "Roland Phelps". The signature is written in a cursive, flowing style.

Dated: 28<sup>th</sup> April 2020

## APPENDIX A

### **GROUND STABILITY AND DEPTH**

Rock mass rating assessments are recorded for every face as the development progresses. This enables geologists to determine where ground conditions change, if they fall below a certain level immediate action can be taken to ensure extra support is put in place. Q values are calculated using the standard formula:

$$Q=(RQD/Jn) \times (Jr/Ja) \times (Jw/SRF)$$

Where: RQD is Rock Quality Designation, Jn is number of joint sets, Jr is a measure of joint roughness, Ja is joint filling, Jw is a measure of how wet or dry the face is, and SRF is Stress Reduction Factor. Very poor conditions score <1, poor 1-5, moderate 5-10 and good >10. A score ~1 is typical for this mine.

Analysis of all the Q-values collected in the main decline suggests a small overall improvement in ground conditions with depth, as summarised in Table 1.

Decline Section	Number of faces recorded	Q-value range	Average Q-value
Portal-120m	45	0.47 - 7.33	1.60
120m – 1084 Access	37	0.47 – 5.4	2.24
1084 – 1072 Access	41	0.67 – 5.5	1.96
1072 – 1060 Access	23	0.98 – 6.25	2.17
1060 Access + 110 m	31	0.88 – 6.88	2.65

TABLE 1: Rock mass rating assessment averages for each level in the mine development.



## APPENDIX B

### **GRADE CONTROL SAMPLING**

For approximately every second face in each of the underground ore drives (approximately 5 m strike interval) chipped samples were collected along 1.5 m high channel lines. The horizontal lines were marked with spray paint and spanned the entire 3 m wide section of each drill face, regardless of mineralisation observed. A hammer was used to chip across this channel with a consistent collection of material in labelled sample bags. Approximately 3 kg of rock and clay was taken at each of the sampled faces. This 'chip channel sampling' is a practical and efficient means of collecting material used for grade control applications. In collecting a sample that spans the entire width of the drive, a realistic and reliable grade is ascertained for each mined block in the model.

#### *Labelling*

Every grade control sample has been labelled according to the following system:

GAL-19-KYM-CH-X\*

\*where GAL (Galantas), 19 (Year 2019), KYM (Kearney main vein), CH (channel), X (sample number).

#### *Geochemical analysis and data verification*

Samples were logged in a diary and analysed using the on-site laboratory, which is not independent. Material was crushed using a small mill crusher and placed under heat lamps until dried thoroughly, typically this took 1.5 to 2 hours. Samples were then pulverised and sieved through 300 um and 75 um sieves until at least 120 g of material was retrieved. The sub-sample was placed in a labelled bag. A standard fire assay procedure was followed. Fire assays were carried out on four 30g samples. Prills were measured and recorded for gold grade at the end of the assay procedure and the average was reported. Sample prills were always labelled and retained for future records.

The samples were taken for grade control purposes and not intended for resource estimation. As such, they have not been subject to the usual duplication, verification procedures and independent testing that is usually applied where the samples are taken for resource estimation purposes.

The in-house laboratory carries out analyses on a range of sample types, such as run-of-mine feed, tailings, concentrate and grade control samples. Standard practice is to minimise errors by carrying out multiple assays on the same sample. In-house assays are periodically compared with those carried out by outside independent laboratories.

## APPENDIX C

### **PROBE DRILLING PROGRAMME METHODOLOGY AND RESULTS**

Probe drilling was carried out using an Atlas Copco 104 long hole drill rig and 1.525 m length rods. Each rod drills a hole of 51 mm diameter (Figure A). Cuttings were diverted directly from the hole into a large container on the floor via a plastic tube (Figure B). As each rod was drilled detailed notes were made of any changes in feed pressure, drill rotation speed, water and cutting returns, and any difficulties in drilling which could signify changes in rock components. Particular attention was paid to water colour, with dark grey/black returns often associated with ore zones. If a water colour change was detected during drilling then this was recorded alongside a visual estimate of the remaining rod length (e.g. at 1 m rod length left, the water turned grey). Water and sediment were collected into the container as each rod was drilled. The fines were given time to settle before sampling. Samples were collected by hand, typically three handfuls per rod, and transferred into a pre-labelled plastic bag (GAL-19-SL-(rod number)). The container was flushed out between every 1.5 m sample length to reduce contamination. A borescope borehole investigation camera was used to record five of the holes.



FIGURE A: drilling a probe hole.





FIGURE D. Probe 11 in K1072 ODN, proving an additional dilation zone.

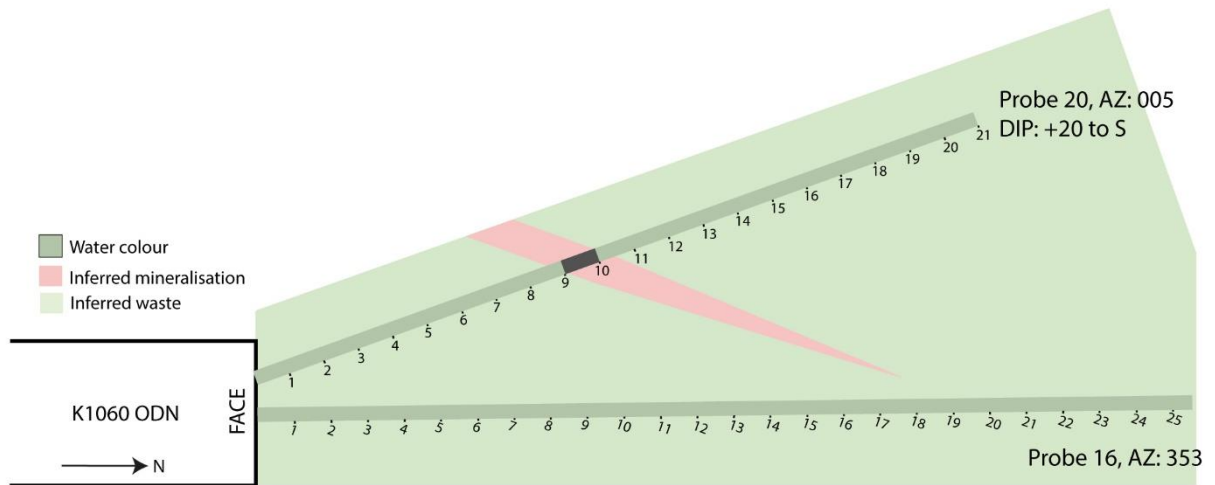


FIGURE E. Probes 20 and 16 in K1060 ODN, defining a known dilation zone

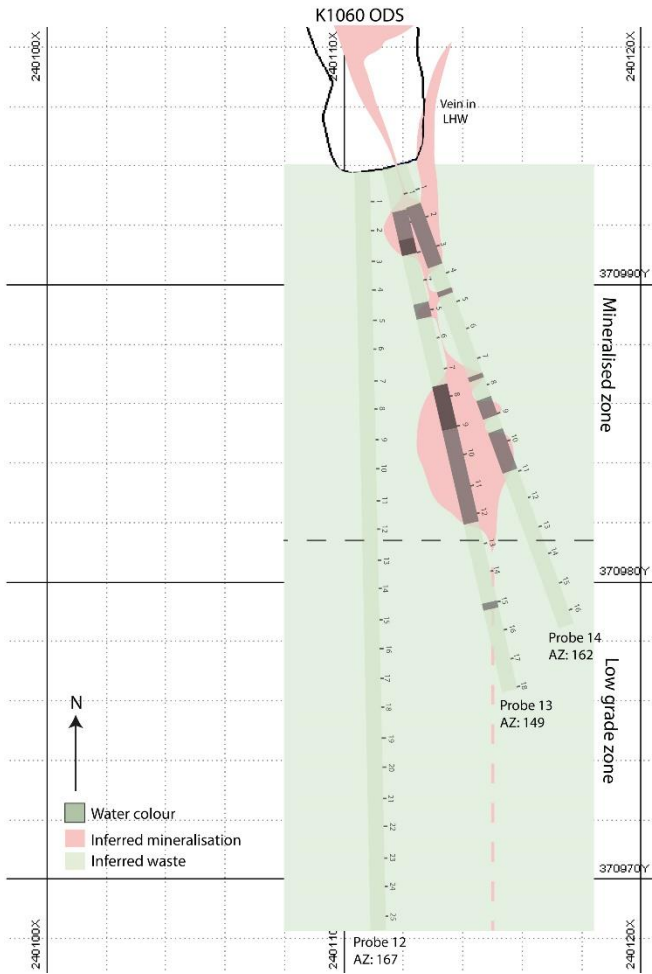


FIGURE F. Probes 12, 13 and 14 in K1060 ODS. The dilation zone extends for 12 m from the end of the drive.



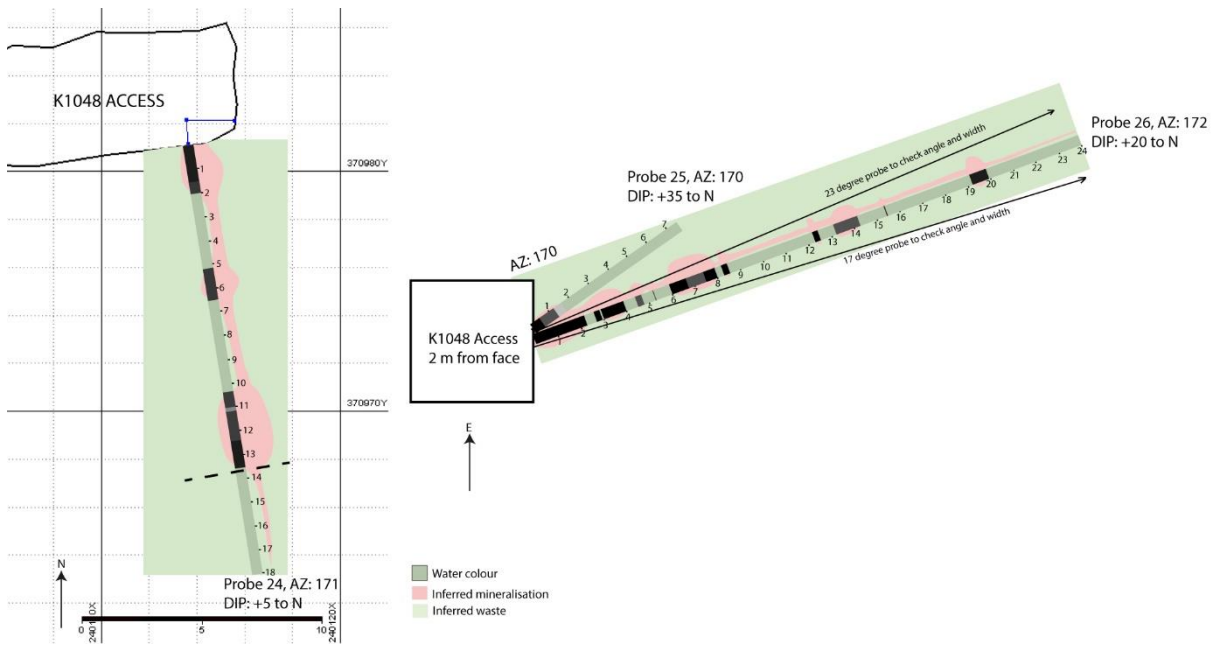


FIGURE G. Probe 24 suggests the dilation zone extends 14 m to the south of K1048 Access. Probes 25 and 26 prove continuous mineralisation along a  $+20^\circ$  dip.

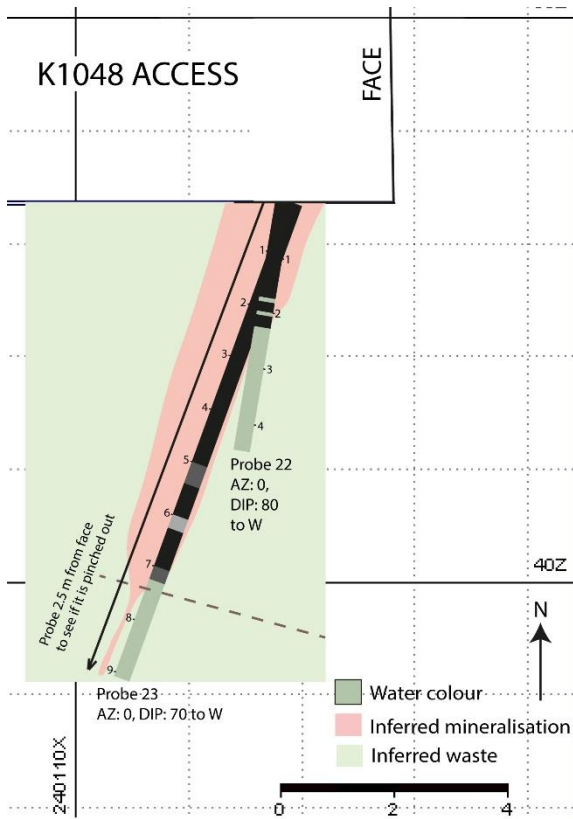


FIGURE H. Probes suggest the dilation zone continues 7 m into the floor of K1048 Access.

