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## **LEXAM VG GOLD INC.**

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# **TECHNICAL REPORT ON THE PRELIMINARY ECONOMIC ASSESSMENT OF THE BUFFALO ANKERITE, FULLER, PAYMASTER AND DAVIDSON TISDALE GOLD DEPOSITS, NORTHEASTERN ONTARIO, CANADA**

### **NI 43-101 Report**

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**CAUTIONARY NOTE WITH RESPECT TO FORWARD LOOKING INFORMATION**

Certain information and statements contained in this report are “forward looking” in nature. All information and statements in this report, other than statements of historical fact, that address events, results, outcomes, or developments that Lexam VG Gold Inc. and/or the Qualified Persons who authored this report expect to occur are “forward-looking statements”. Forward-looking statements are statements that are not historical facts and are generally, but not always, identified by the use of forward-looking terminology such as “plans”, “expects”, “is expected”, “budget”, “scheduled”, “estimates”, “forecasts”, “intends”, “anticipates”, “projects”, “potential”, “believes” or variations of such words and phrases or statements that certain actions, events or results “may”, “could”, “would”, “should”, “might” or “will be taken”, “occur” or “be achieved” or the negative connotation of such terms. Forward-looking statements include, but are not limited to, statements with respect to anticipated production rates; grades; projected metallurgical recovery rates; infrastructure, capital, operating and sustaining costs; the projected life of mine; the proposed pit design phase development and potential impact on cash flow; estimates of Mineral Resources; the future price of gold; government regulations; the maintenance or renewal of any permits or mineral tenures; estimates of reclamation obligations that may be assumed; requirements for additional capital; environmental risks; and general business and economic conditions.

All forward-looking statements in this report are necessarily based on opinions and estimates made as of the date such statements are made and are subject to important risk factors and uncertainties, many of which cannot be controlled or predicted. Material assumptions regarding forward-looking statements are discussed in this report, where applicable. In addition to, and subject to, such specific assumptions discussed in more detail elsewhere in this report, the forward-looking statements in this report are subject to the following assumptions: (1) there being no significant disruptions affecting the operation of the mine; (2) the availability of certain consumables and services and the prices for diesel, cyanide, fuel oil, electricity and other key supplies being approximately consistent with current levels; (3) labour and materials costs increasing on a basis consistent with current expectations; (4) that all environmental approvals, required permits, licenses and authorizations will continue to be held on the same or similar terms and obtained from the relevant governments and other relevant stakeholders within the expected timelines; (5) certain tax rates; (6) the timelines for exploration activities; and (7) assumptions made in Mineral Resource estimates,

including geological interpretation grade, recovery rates, gold price assumption, and operational costs; and general business and economic conditions.

Forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements to be materially different from any of the future results, performance or achievements expressed or implied by forward-looking statements. These risks, uncertainties and other factors include, but are not limited to, decrease of future gold prices; cost of labour, supplies, fuel and equipment rising; adverse changes in anticipated production, including discrepancies between actual and estimated production, Resources and recoveries; exchange rate fluctuations; title risks; regulatory risks, and political or economic developments in the United States; changes to tax rates; changes to; risks and uncertainties with respect to obtaining necessary permits, land use rights and other tenure from the State and private landowners or delays in obtaining same; risks associated with maintaining and renewing permits and complying with permitting requirements, and other risks involved in the gold exploration and development industry; as well as those risk factors discussed elsewhere in this report, in Lexam VG Gold Inc.'s latest Annual Information Form, Management's Discussion and Analysis and its other SEDAR filings from time to time. All forward-looking statements herein are qualified by this cautionary statement. Accordingly, readers should not place undue reliance on forward-looking statements. Lexam VG Gold Inc. and the Qualified Persons who authored of this report undertake no obligation to update publicly or otherwise revise any forward-looking statements whether as a result of new information or future events or otherwise, except as may be required by law.

#### **CAUTIONARY NOTE TO U.S. READERS CONCERNING ESTIMATES OF MEASURED, INDICATED AND INFERRED MINERAL RESOURCES**

Information concerning the Buffalo Ankerite, Fuller, Paymaster, and Davidson Tisdale properties has been prepared in accordance with Canadian standards under applicable Canadian securities laws, and may not be comparable to similar information for United States companies. The terms "Mineral Resource", "Measured Mineral Resource", "Indicated Mineral Resource" and "Inferred Mineral Resource" used in this report are Canadian mining terms as defined in accordance with National Instrument 43-101 ("NI 43-101") under guidelines set out in the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") Standards on Mineral Resources and Mineral Reserves adopted by the CIM Council on



November 27, 2010. While the terms “Mineral Resource”, “Measured Mineral Resource”, “Indicated Mineral Resource” and “Inferred Mineral Resource” are recognized and required by Canadian securities regulations, they are not defined terms under standards of the United States Securities and Exchange Commission. As such, certain information contained in this report concerning descriptions of mineralization and resources under Canadian standards is not comparable to similar information made public by United States companies subject to the reporting and disclosure requirements of the United States Securities and Exchange Commission. An “Inferred Mineral Resource” has a great amount of uncertainty as to its existence and as to its economic and legal feasibility. It cannot be assumed that all or any part of an “Inferred Mineral Resource” will ever be upgraded to a higher category. Readers are cautioned not to assume that all or any part of an “Inferred Mineral Resource” exists, or is economically or legally mineable.

# 1 SUMMARY

## EXECUTIVE SUMMARY

Roscoe Postle Associates Inc. (RPA) was retained by Lexam VG Gold Inc. (Lexam or the Company) to prepare an independent Preliminary Economic Assessment (PEA) and an independent Technical Report on the Buffalo Ankerite, Fuller, Paymaster, and Davidson Tisdale properties (the Lexam Project or the Project or the Timmins Properties), located in Timmins, Ontario, Canada. This Technical Report conforms to National Instrument 43-101 Standards of Disclosure for Mineral Projects (NI 43-101) and was prepared jointly by RPA and P&E Mining Consultants Inc. (P&E) at the request of Lexam. RPA last visited the Lexam Project from October 8 to 9, 2013.

Lexam is headquartered in Toronto, Ontario, with exploration offices in Timmins, Ontario. The Company trades on the Toronto Stock Exchange (TSX:LEX), on the Over-the-Counter exchange in the United States (OTCQX:LEXVF), and on the Frankfurt Exchange (FWB:VN3A) in Germany. The principal business of Lexam is to explore and develop its Timmins Properties and to acquire additional gold properties in the Timmins area. Lexam currently holds a 100% interest in the Buffalo Ankerite and Fuller properties along with a 60% interest in the claim forming the Paymaster property and a 68.5% interest in the Davidson Tisdale property.

The PEA is based on conventional truck and shovel open pit operations with direct shipping of mineralization to a local toll processing facility for gold recovery. Mining operations will be completed by both mining contractor and Lexam. The proposed mineralized production rate is 0.7 Mtpa (approximately 2,000 tpd) for approximately 6.5 years.

This report is considered by RPA to meet the requirements of a PEA as defined in Canadian NI 43-101 regulations. The economic analysis contained in this report is based, in part, on Inferred Resources, and is preliminary in nature. Inferred Resources are considered too geologically speculative to have mining and economic considerations applied to them and to be categorized as Mineral Reserves. There is no certainty that economic forecasts on which this PEA is based will be realized.

## CONCLUSIONS

In RPA's opinion, the Project is a project of merit, with Mineral Resources of sufficient quantity and quality to warrant additional investigation at a prefeasibility level of study (PFS). RPA notes that while the data and analysis of the PEA are favourable, there is no certainty that a PFS or higher level of study will result in a decision to put the Project into production.

RPA's conclusions specific to each area are as follows:

### GEOLOGY AND MINERAL RESOURCES

RPA is not aware of any known environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other relevant factors that could materially affect the current Mineral Resource estimates.

#### ***BUFFALO ANKERITE***

P&E has the following conclusions for Buffalo Ankerite:

- Significant deposits of gold mineralization have been delineated by drilling in the North and South zones on the Buffalo Ankerite Property.
- The procedures for drilling, collection of data, sampling, assaying and check assaying carried out by Dome and Lexam have produced a drill hole database that is acceptable for Mineral Resource estimation.
- Continuity of host structures on the Buffalo Ankerite Property was readily amenable to wireframe constraints. The Mineral Resource estimation was constrained by mineral zone wireframes and used multiple search ellipses mapped to the zone orientations and inverse distance to the power of 3 ( $ID^3$ ) for grade interpolation. Resources are reported net of past production based on modelled stopes and drifts located in the mineral zones.
- No assay data were available for the stopes and drifts, however, construction of vein domains was guided by the location of stopes and exploration drifts, which imply good continuity of the structures hosting the gold-bearing quartz-tourmaline breccias and veining.
- Indicated Resources are outlined where resource blocks were interpolated from two holes in the first (short range) interpolation pass and surface and/or underground drill hole spacing is in the order of 150 ft for the North Zone and 100 ft for the South Zone.
- There is some uncertainty in the widths of modelled stopes since the tonnage attributable to all the modelled stopes exceeds past reported production.

- Surface drill hole deviation results in spatial uncertainty of the zone interpreted from drilling with respect to the stopes and drifts and therefore not all mined/developed material may have been subtracted from the estimated resources. Resources bordering stopes, arising from larger zone widths because of lower cut-off grade, may only be partly recoverable or may not be recoverable.
- In P&E's opinion, the Buffalo Ankerite Property open pit and underground Mineral Resource estimates presented in Tables 1-1 and 1-2 are reasonable. The Buffalo Ankerite North and South Property Mineral Resources are 100% attributable to Lexam; while South-Paymaster is 60% attributable to Lexam.

**TABLE 1-1 OPEN PIT MINERAL RESOURCE ESTIMATE – MAY 22, 2013**  
**Lexam VG Gold Inc. – Buffalo Ankerite Property**

| Zone                | Indicated Resources |                   |                                   |                          | Inferred Resources |                   |                                   |                          |
|---------------------|---------------------|-------------------|-----------------------------------|--------------------------|--------------------|-------------------|-----------------------------------|--------------------------|
|                     | Tons<br>(000)       | Grade<br>(opt Au) | Contained<br>Metal<br>(000 oz Au) | Lexam<br>Ounces<br>(000) | Tons<br>(000)      | Grade<br>(opt Au) | Contained<br>Metal<br>(000 oz Au) | Lexam<br>Ounces<br>(000) |
| North               | 532                 | 0.071             | 37.6                              | 37.6                     | 198                | 0.07              | 13.8                              | 13.8                     |
| South               | 2,622               | 0.075             | 197                               | 197                      | 2,707              | 0.068             | 183                               | 183                      |
| South-<br>Paymaster | 58                  | 0.072             | 4.2                               | 2.5                      | 113                | 0.061             | 6.9                               | 4.1                      |
| <b>Total</b>        | <b>3,212</b>        | <b>0.074</b>      | <b>239</b>                        | <b>237</b>               | <b>3,018</b>       | <b>0.067</b>      | <b>204</b>                        | <b>201</b>               |

Notes:

1. Mineral Resource estimate completed by P&E
2. CIM definitions were followed for Mineral Resources.
3. Mineral Resources are estimated at a cut-off grade of 0.015 opt Au for open pit.
4. Mineral Resources are estimated using a gold price of US\$1,600 per ounce, and a US\$/C\$ exchange rate 1:1.
5. Buffalo Ankerite North Zone Mineral Resources on the Paymaster Property are included in the RPA Paymaster Property Mineral Resource estimate.
6. Numbers may not add due to rounding.

**TABLE 1-2 UNDERGROUND MINERAL RESOURCE ESTIMATE – MAY 22, 2013**  
**Lexam VG Gold Inc. – Buffalo Ankerite Property**

| Zone                | Indicated Resource |                   |                                   |                          | Inferred Resource |                   |                                   |                          |
|---------------------|--------------------|-------------------|-----------------------------------|--------------------------|-------------------|-------------------|-----------------------------------|--------------------------|
|                     | Tons<br>(000)      | Grade<br>(opt Au) | Contained<br>Metal<br>(000 oz Au) | Lexam<br>Ounces<br>(000) | Tons<br>(000)     | Grade<br>(opt Au) | Contained<br>Metal<br>(000 oz Au) | Lexam<br>Ounces<br>(000) |
| North               | 1,779              | 0.149             | 266                               | 266                      | 1,017             | 0.122             | 124                               | 124                      |
| South               | 1,818              | 0.128             | 233                               | 233                      | 2,082             | 0.117             | 243                               | 243                      |
| South-<br>Paymaster | -                  | -                 | -                                 | -                        | 0.1               | 0.1               | 0.02                              | 0.01                     |
| <b>Total</b>        | <b>3,597</b>       | <b>0.139</b>      | <b>499</b>                        | <b>499</b>               | <b>3,099</b>      | <b>0.118</b>      | <b>367</b>                        | <b>367</b>               |

Notes:

1. Mineral Resource estimate completed by P&E
2. CIM definitions were followed for Mineral Resources.
3. Mineral Resources are estimated at a cut-off grade of 0.075 opt Au for underground.
4. Mineral Resources are estimated using a gold price of US\$1,600 per ounce, and a US\$/C\$ exchange rate 1:1.
5. Buffalo Ankerite North Zone Mineral Resources on the Paymaster Property are included in the RPA Paymaster Property Mineral Resource estimate.
6. Numbers may not add due to rounding.

**FULLER**

RPA has the following conclusions for Fuller:

- A significant deposit of gold mineralization has been delineated at the Fuller Property by diamond drilling. Both underground and surface drill holes were included in the Mineral Resource estimate, after RPA discarded a small number of underground drift back samples and sludge test hold samples that are present in the drill hole database.
- The procedures for drilling, collection of data, sampling, assaying and check assaying carried out by Lexam have produced a drill hole database that is acceptable for Mineral Resource estimation.
- Continuity of mineralization on the Fuller Property is not amenable to wireframe constraint. Consequently, the Mineral Resource estimation utilized a dynamic anisotropy interpolation approach to constrain the interpolation and mimic the tightly folded stratigraphy.
- In RPA's opinion, the Fuller Property Mineral Resource estimate presented in Table 1-3 is reasonable.

**TABLE 1-3 MINERAL RESOURCE ESTIMATE – MAY 22, 2013**  
**Lexam VG Gold Inc. - Fuller Property**

| <b>Classification</b>  | <b>Cut-off Grade<br/>(opt Au)</b> | <b>Tonnage<br/>(000 tons)</b> | <b>Grade<br/>(opt Au)</b> | <b>Contained<br/>Metal<br/>(000 oz Au)</b> |
|------------------------|-----------------------------------|-------------------------------|---------------------------|--|
| Open Pit               |                                   |                               |                           |  |
| Indicated              | ≥0.015                            | 5,878                         | 0.049                     | 290  |
| Inferred               | ≥0.015                            | 2,981                         | 0.038                     | 112  |
| Underground            |                                   |                               |                           |  |
| Indicated              | ≥0.075                            | 361                           | 0.168                     | 61   |
| Inferred               | ≥0.075                            | 930                           | 0.145                     | 135  |
| <b>Total Indicated</b> |                                   | <b>6,239</b>                  | <b>0.056</b>              | <b>351</b>                                 |
| <b>Total Inferred</b>  |                                   | <b>3,911</b>                  | <b>0.063</b>              | <b>247</b>                                 |

Notes:

1. CIM definitions were followed for Mineral Resources.
2. Mineral Resources are estimated at a cut-off grade of 0.015 opt Au for open pit and 0.075 opt Au for underground.
3. Mineral Resources are estimated using a gold price of US\$1,600 per ounce, and a US\$/C\$ exchange rate 1:1.
4. Numbers may not add due to rounding.

**PAYMASTER**

RPA has the following conclusions for Paymaster:

- A significant deposit of gold mineralization has been delineated at the Paymaster Property by diamond drilling. RPA discarded data from historical holes drilled in the 1920s and 1950s after a comparison of the assay results to recent drill holes showed low similarity.
- The procedures for drilling, collection of data, sampling, assaying and check assaying carried out by Lexam have produced a drill hole database that is acceptable for Mineral Resource estimation.
- Continuity of mineralization on the Paymaster Property was proved amenable to wireframe constraints.
- The open pit Mineral Resource estimation used inverse distance to the fifth power for grade interpolation. RPA used a higher exponent to interpolate the open pit model to help reduce the lateral interaction between the mineralization and internal waste bands included in some of the open pit resource wireframes.
- In RPA's opinion, the Paymaster Property Mineral Resource estimate presented in Table 1-4 is reasonable. 60% of Paymaster Property Mineral Resources are attributable to Lexam.

**TABLE 1-4 MINERAL RESOURCE ESTIMATE – MAY 22, 2013**  
**Lexam VG Gold Inc. - Paymaster Property**

| <b>Classification</b>  | <b>Cut-off Grade<br/>(opt Au)</b> | <b>Tonnage<br/>(000 tons)</b> | <b>Grade<br/>(opt Au)</b> | <b>Contained<br/>Metal<br/>(000 oz Au)</b> |
|------------------------|-----------------------------------|-------------------------------|---------------------------|--|
| Open Pit               |                                   |                               |                           |  |
| Indicated              | ≥0.015                            | 5,135                         | 0.047                     | 242  |
| Inferred               | ≥0.015                            | 1,542                         | 0.047                     | 72   |
| Underground            |                                   |                               |                           |  |
| Indicated              | -                                 | -                             | -                         | -  |
| Inferred               | ≥0.075                            | 239                           | 0.179                     | 43   |
| <b>Total Indicated</b> |                                   | <b>5,135</b>                  | <b>0.047</b>              | <b>242</b>                                 |
| <b>Total Inferred</b>  |                                   | <b>1,781</b>                  | <b>0.065</b>              | <b>115</b>                                 |

Notes:

1. CIM definitions were followed for Mineral Resources.
2. Mineral Resources are estimated at a cut-off grade of 0.015 opt Au for open pit and 0.075 opt Au for underground.
3. Mineral Resources are estimated using a gold price of US\$1,600 per ounce, and a US\$/C\$ exchange rate 1:1.
4. A minimum mining width of approximately 20 ft was used for open pit and approximately 5 ft for underground.
5. Numbers may not add due to rounding.

**DAVIDSON TISDALE**

P&E has the following conclusions for Davidson Tisdale:

- The Davidson Tisdale gold deposit has been delineated by substantial historical exploration and diamond drill programs.
- The procedures for drilling, collection of data, sampling, assaying and check assaying carried out by Placer Dome and Lexam have produced a drill hole database that is acceptable for Mineral Resource estimation.
- Continuity of host structures on the Davidson Tisdale Property was readily amenable to wireframe constraints. The Mineral Resource estimation was constrained by mineral zone wireframes and used multiple search ellipses mapped to the zone orientations and Ordinary Kriging for grade interpolation.
- In P&E's opinion, the Davidson Tisdale Property Mineral Resource estimate presented in Table 1-5 is reasonable. 68.5% of Davidson Tisdale Property Mineral Resources are attributable to Lexam.

**TABLE 1-5 MINERAL RESOURCE ESTIMATE – APRIL 2, 2013**  
**Lexam VG Gold Inc. – Davidson Tisdale Property**

|              | Cut-Off Grade<br>(Au g/t) | Classification   | Tonnes         | Grade<br>(Au g/t) | Contained Metal<br>(oz Au) | 68.5% Attributable<br>oz to Lexam |
|--------------|---------------------------|------------------|----------------|-------------------|----------------------------|-----------------------------------|
| In-Pit       | 0.5                       | Measured         | 452,000        | 2.44              | 35,500                     | 24,300                            |
|              | 0.5                       | Indicated        | 173,000        | 2.43              | 13,500                     | 9,300                             |
|              | <b>0.5</b>                | <b>M+I Total</b> | <b>625,000</b> | <b>2.44</b>       | <b>49,000</b>              | <b>33,600</b>                     |
| UG           | 2.6                       | Measured         | 18,000         | 6.64              | 3,800                      | 2,600                             |
|              | 2.6                       | Indicated        | 41,000         | 4.91              | 6,500                      | 4,400                             |
|              | <b>2.6</b>                | <b>M+I Total</b> | <b>59,000</b>  | <b>5.43</b>       | <b>10,300</b>              | <b>7,000</b>                      |
|              | 2.6                       | Inferred         | 71,000         | 4.20              | 9,600                      | 6,600                             |
| <b>Total</b> | <b>0.5+2.6</b>            | <b>Measured</b>  | <b>470,000</b> | <b>2.60</b>       | <b>39,300</b>              | <b>26,900</b>                     |
|              | <b>0.5+2.6</b>            | <b>Indicated</b> | <b>214,000</b> | <b>2.90</b>       | <b>20,000</b>              | <b>13,700</b>                     |
|              | <b>0.5+2.6</b>            | <b>M+I Total</b> | <b>684,000</b> | <b>2.70</b>       | <b>59,300</b>              | <b>40,600</b>                     |
|              | <b>2.6</b>                | <b>Inferred</b>  | <b>71,000</b>  | <b>4.20</b>       | <b>9,600</b>               | <b>6,600</b>                      |

Notes:

1. Mineral Resources which are not Mineral Reserves do not have demonstrated economic viability. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.
2. The quantity and grade of reported Inferred Resources in this estimation are uncertain in nature and there has been insufficient exploration to define these Inferred Resources as an Indicated or Measured mineral resource and it is uncertain if further exploration will result in upgrading them to an Indicated or Measured Mineral Resource category.
3. The Mineral Resources in this report were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines prepared by the CIM Standing Committee on Reserve Definitions and adopted by the CIM Council.
4. The historical mined tonnage was not depleted as the mined tonnage was insignificant.
5. The Davidson Tisdale Property is a joint venture between Lexam as operator (68.5%) and SGX Resources Inc. (31.5%). The contained Au oz reflects the 68.5% of the resource attributable to Lexam.

## MINING AND MINERAL RESERVES

RPA has the following conclusions:

- There are no Mineral Reserves estimated for the Project.
- A relatively simple open pit mining plan has been developed for the Project, which mines a series of open pits in sequence, with subsequent backfilling of previously mined pits.
- Open pit mining will be conducted by both Lexam and a mining contractor. All mineralized production will be direct shipped for toll processing to a local facility. The toll processing scenario presents a relatively low capital cost path to production. Additional potential for underground mineralized production is high considering the history of the area, however, the intent of the PEA was to focus solely on Mineral Resources with reasonable prospects for economic extraction by open pit mining.



- Proposed mineralized production is sourced from five pit areas: Buffalo Ankerite South, Davidson Tisdale, Buffalo Ankerite North, Paymaster, and Fuller. All but Davidson Tisdale makeup the main cluster.
- The mineralized production schedule consists of 4.4 Mt of Measured, Indicated, and Inferred Mineral Resources, modified for mining dilution and extraction. Approximately 80% of the contained gold ounces are classified as Measured or Indicated. The overall strip ratio is 9.6 units of waste to each unit of mineralized production.
- 6.5 years of mineralized production is identified at a production rate of 0.7 Mtpa (approximately 2,000 tpd). During this time, approximately 318,000 oz of gold are direct shipped to a toll processing facility. Over 95% of contained gold production is from the main cluster. Processing is estimated to recover 293,000 oz of gold, for an overall average gold recovery of 92%.
- A re-settlement program is required for numerous residences within and adjacent to the Buffalo Ankerite South proposed mining area.
- A short embankment is required to the north of the Paymaster proposed mining area to control water inflow from a shallow pond.
- Water from a shallow tailings pond at the eastern end of the proposed Fuller mining area needs to be re-located for storage or treated for discharge as required.
- RPA has assumed all waste material generated during the proposed operations is inert and will not require special handling, storage, or long term collection and monitoring of drainage.

## **MINERAL PROCESSING AND RECOVERY METHODS**

RPA has the following conclusions:

- The Timmins area is an active mining area that has been producing gold for over 100 years. Historical data and recent metallurgical test data indicate that the proposed mineralized production would be amenable to the same processing methods that have been used in the area historically. Thus RPA has assumed that the proposed mineralized production would be viewed as an attractive feed stock for toll processing.

## **ENVIRONMENT, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT**

RPA has the following conclusions:

- Several environmental studies and documents have been previously completed for the Properties that make up the Project. These historical studies will provide useful baseline information, however, additional studies will be required in order to develop the currently proposed Project. Considering a federal environmental assessment, closure plan, and permit requirements, the process to approve the Project will likely take several years.

## RECOMMENDATIONS

The Project hosts significant gold mineralization, which merits additional exploration, however, the primary focus of the recommendations and proposed budgets are on advancing the findings of the PEA through a PFS. Table 1-6 presents the proposed budget for the Project, as prepared by Lexam. RPA concurs with Lexam's budget.

**TABLE 1-6 PROPOSED BUDGET**  
**Lexam VG Gold Inc. – Lexam VG Project**

| <b>Item</b>                          | <b>C\$</b>       |
|--------------------------------------|------------------|
| <b>Additional Exploration (2014)</b> |                  |
| Drilling:                            |                  |
| Buffalo Ankerite South               | 600,000          |
| Buffalo Ankerite North               | 300,000          |
| Paymaster                            | 300,000          |
| Fuller                               | 200,000          |
| Davidson Tisdale                     | 100,000          |
| <b>Sub-total</b>                     | <b>1,500,000</b> |
| Admin (15%)                          | 225,000          |
| <b>TOTAL</b>                         | <b>1,725,000</b> |
| <b>PFS (2014-2015)</b>               |                  |
| Geotechnical Investigation           | 500,000          |
| Metallurgical Investigation          | 300,000          |
| Resource Model Updates               | 400,000          |
| Underground Scoping Study            | 100,000          |
| Permitting/Reclamation               | 100,000          |
| Prefeasibility Study                 | 300,000          |
| <b>Sub-total</b>                     | <b>1,700,000</b> |
| Admin (15%)                          | 255,000          |
| <b>TOTAL</b>                         | <b>1,955,000</b> |

Recommendations specific to each area of the Project are:

## GEOLOGY AND MINERAL RESOURCES

### ***BUFFALO ANKERITE***

P&E has the following recommendations:

- Lexam should tie the mine grid into the Universal Transverse Mercator (UTM) NAD 83 grid system and convert all units in the database to metric.

- P&E identified a number of instances during assay verification wherein resource assays in the drill hole database were much lower or zero with respect to laboratory certificates. P&E recommends investigating these discrepancies with the objective of incorporating correct values in future resource estimation updates.
- P&E identified a number of drill holes for which implausible deviation is recorded in the down hole surveys. Lexam should review available documentation for these surveys and correct or delete problematic azimuth or dip readings.
- Begin a program of regular submission of blank material with drill core samples.
- Use certified commercial standards, with certified gold values to monitor the laboratory performance. Include at least three different grades of Certified Reference Materials (CRMs) into the sampling stream: low grade (near cut-off), average grade, and high grade.
- Incorporate duplicate samples (field, pulp and coarse reject material) into the Project Quality Assurance and Quality Control (QA/QC) protocol for drill programs.
- Implement a QA monitoring system used to detect failed batches, and in turn, identify sample batches for reanalysis.
- The widths of stopes modelled may be over stated resulting in excess volume for past production and development being removed from resources. Lexam should review the stope modelling to confirm if this is the case and remodel problematic openings where necessary.
- Resource classification can be improved with infill drilling along the more widely spaced drilling areas. A spacing of 150 ft by 150 ft (50 m x 50 m) in the North Zone and 100 ft by 100 ft (30 m x 30 m) in the South Zone is recommended.
- Geotechnical data should be routinely collected when logging drill core.
- Bulk density determinations should be routinely carried out in mineralization and waste in any future drilling.

**FULLER**

RPA has the following recommendations for the Fuller Property:

- Mineral Resources may be increased by investigating gold mineralization located on the periphery of the current geological model, particularly in areas west of the Fuller Syncline. This would improve resource classification by upgrading areas not classified to Inferred and Inferred blocks to Indicated.
- Furthermore, resource classification can be improved with infill drilling along the more widely spaced drilling areas. Within the open pit resource, a spacing of 100 ft by 100 ft along the east and west limbs of the Fuller Syncline is recommended.
- Routinely collect geotechnical data when logging drill core.
- Begin a program of regular submission of blank material with drill core samples.

- Use certified commercial standards, with certified gold values to monitor the laboratory performance. Include at least three different grades of CRMs into the sampling stream: low grade (near cut-off), average grade, and high grade.
- Incorporate duplicate samples (field, pulp, and coarse reject material) into the Project QA/QC protocol for drill programs.
- Implement a QA monitoring system used to detect failed batches, and in turn, identify sample batches for re-analysis.
- Use an accredited secondary laboratory to assess the assay accuracy of the primary laboratory.
- Update and supplement the lithological model with additional bulk density determinations throughout the Fuller deposit in order to decrease density uncertainties for mineralization and waste rock.

#### **PAYMASTER**

RPA has the following recommendations for the Paymaster Property:

- Future refinements could include adding more search domains to better align the grade interpolation in some areas.
- Begin a program of regular submission of blank material with regular drill core samples.
- Use certified commercial standards, with certified gold values to monitor the laboratory performance. Include at least three different grades of CRMs into the sampling stream: low grade (near cut-off), average grade, and high grade.
- Incorporate duplicate samples (field, pulp and coarse reject material) into the Project QA/QC protocol for drill programs.
- Implement a QA monitoring system used to detect failed batches, and in turn, identify sample batches for reanalysis.
- Use an accredited secondary laboratory to assess the assay accuracy of the primary laboratory.
- Routinely collect geotechnical data when logging drill core.
- Update and supplement the lithological model with additional bulk density determinations throughout the Paymaster deposit in order to decrease density uncertainties for mineralization and waste rock.

#### **MINING AND MINERAL RESERVES**

RPA makes the following recommendations for advancement of the Project to the PFS stage:

- Complete drilling as required to upgrade in-pit mineralization to a Measured classification at the Buffalo Ankerite South pits.
- Complete drilling as required to upgrade Inferred in-pit mineralization to at least Indicated classification for Buffalo Ankerite North, Paymaster, and Fuller pits.
- Complete comprehensive geotechnical studies for the open pits to develop recommendations for overall pit slope angles, bench design criteria, and pumping requirements. Studies are likely to include:
  - Diamond drilling of oriented geotechnical core holes and packer testing for investigation of geomechanical and hydrogeological rock mass conditions,
  - Televiewer surveys in existing exploration drill holes to collect additional structural data, and
  - Laboratory rock testing for Brazilian tensile strength, uniaxial compressive strength, and triaxial shear strength for cohesion and angle of internal friction.
- Confirm depth and properties of overburden, tailings, and waste rock piles over open pit footprints for pit slope design.
- Obtain budgetary quotes from mining contractors to perform the proposed mining operations.
- Complete scoping studies on underground mining potential to determine if there are reasonable prospects for economic extraction.
- Complete a higher resolution (bench scale) review of mining factors, which accounts for mining factors specifically at the hangingwall and footwall contacts, internal dilution, and isolated blocks.
- Prioritize investigative studies for the Buffalo Ankerite South pits as this is the initial production target.
- Review proposed haul truck size and impact on ramp widths and waste stripping.
- Investigate requirements of the surface water management plan for handling existing ponded waters within proposed pit footprints.
- Investigate the potential for metal leaching and acid rock drainage from the waste materials generated over the Life-of-Mine (LoM).

## **MINERAL PROCESSING AND RECOVERY METHODS**

RPA makes the following recommendations with regards to metallurgy and processing:

- Complete additional sampling and metallurgical testwork to confirm that the material to be mined in all of the open pits has the same metallurgical response as the samples that have been tested.
- Begin discussions with potential toll processing facilities in order to determine interest and available capacity for proposed Lexam mineralized production.

## ENVIRONMENT, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT

RPA makes the following recommendations:

- Initiate the required studies and activities for the Environmental Assessment, closure plan, and other required environmental approvals (Ontario Environmental Compliance Approval, Ontario Permit to take Water, Work Approval from Ontario Ministry of Natural Resources, Waste Generator Registration, Notice of Project, Approval under Explosives Act if required, Work Permit Public Lands Act, and site plan control agreement).

## ECONOMIC ANALYSIS

The economic analysis contained in the PEA is based, in part, on Inferred Resources, and is preliminary in nature. Inferred Resources are considered too geologically speculative to have mining and economic considerations applied to them and to be categorized as Mineral Reserves. There is no certainty that economic forecasts on which this PEA is based will be realized.

RPA has generated a pre-tax cash flow projection from the LoM production schedule and capital and operating cost estimates, which is summarized in Table 1-7. A summary of the key criteria is provided below. Results of an after-tax cash flow projection are also provided, where RPA has relied on Lexam for guidance on taxes, royalties, and other government levies or interests, applicable to revenue or income from the Project.

The economic analysis is presented on a 100% Lexam ownership basis. All dollar amounts are expressed in fourth quarter 2013 Canadian dollars (C\$ or \$) unless otherwise specified.

## ECONOMIC CRITERIA

### ***PRODUCTION***

Open pit production totals for the LoM are:

- 47.0 Mt total moved consisting of:
  - 4.4 Mt of mineralization,
  - 42.5 Mt of waste material,
  - Waste stripping ratio of 9.6:1 (waste : mineralization).
- Mineralized production, which has been factored for mining dilution and extraction, consists of:
  - 76,000 t of Measured Mineral Resources at 2.64 g/t Au for 6,500 oz of contained gold.

- 3,348,000 t of Indicated Mineral Resources at 2.28 g/t Au for 245,500 oz of contained gold.
  - 1,020,000 t of Inferred Mineral Resources at 1.99 g/t Au for 65,100 oz of contained gold.
  - Approximately 80% of the contained gold ounces in mineralized production are classified as Measured or Indicated Mineral Resources.
- Pre-production period of one year (Year -1).
- First year of production (Year 1) corresponds to the year 2017.
- Mine life of 6.5 years.
- Steady state production of 0.7 Mtpa mineralization (approximately 2,000 tpd).
- Average total material movement of approximately 6.7 Mtpa (approximately 19,000 tpd).
- Total contained metal of approximately 318,000 oz of gold.
- Metal recovery averaging 92% gold.
- Total recovered metal of approximately 293,000 oz of gold.

**REVENUE**

- Metal price: US\$1,300/oz gold.
- Exchange rate C\$1.00 = US\$0.90.
- 99.0% payable for gold.
- Revenue is recognized at the time of production.
- No salvage value applied to any of the equipment or infrastructure.

**COSTS**

- Selling cost of US\$5.00/oz gold.
- Pre-production capital cost total of \$58 million; includes indirects and contingency.
- Ongoing capital cost of \$5 million.
- Closure cost of \$5 million.
- LoM operating cost total of \$274 million; average of \$61.73 per tonne mineralized production.

**ROYALTIES AND OWNERSHIP**

There are no net smelter return (NSR) royalties on any of the properties.

Net profits interest (NPI) royalty agreements exist on some of the properties, or portions of, as follows:

- Buffalo Ankerite South – 20% and 10% to Summit.
- Buffalo Ankerite North – 10% to Summit.
- Fuller – 10% to Summit.

The NPI's are accounted for in the cash flow model prior to taxation.

Joint Venture (JV) agreements exist on some of the properties, or portions of, as follows:

- Buffalo Ankerite South – Goldcorp holds a 40% JV share.
- Buffalo Ankerite North – Goldcorp holds a 40% JV share.
- Paymaster – Goldcorp holds a 40% JV share.
- Davidson Tisdale – SGX holds a 31.5% JV share.

The JV's are accounted for in the production schedule, however, the economic analysis is presented on a 100% Lexam ownership basis.

**TAXATION**

Details on taxation were supplied by Lexam and RPA has relied upon this information for the purposes of the PEA. Listed below are the tax assumptions used in the PEA:

- A tax loss carry-forward of deferred expenses of approximately \$25 million was applied.
- A combined federal and provincial corporate tax rate of 25% was applied with a provincial exemption of \$1 million.
- Amortization of investments applicable on the basis of the Straight Line System at 25% annually with a 50% inclusion rate during the year the expense is incurred.

Table 1-7 presents the pre-tax and after-tax cash flow summary for the Project.



**TABLE 1-7 CASH FLOW SUMMARY**  
**Lexam VG Gold Inc. – Lexam VG Project**

|                                    |       |       |            | Year: |     |     |     |     |     |     |     |
|------------------------------------|-------|-------|------------|-------|-----|-----|-----|-----|-----|-----|-----|
|                                    | Units | Value | Total/Avg. | -1    | 1   | 2   | 3   | 4   | 5   | 6   | 7   |
| Production Schedule                |       |       |            |       |     |     |     |     |     |     |     |
| Waste                              | Mt    |       | 42.5       | 3.6   | 7.8 | 7.3 | 7.3 | 5.9 | 5.1 | 4.5 | 1.0 |
| Mineralization                     | Mt    |       | 4.4        | 0.0   | 0.6 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.3 |
| Recovered Gold                     | koz   |       | 293        | 0     | 57  | 54  | 48  | 38  | 41  | 34  | 21  |
| Revenue                            |       |       |            |       |     |     |     |     |     |     |     |
| Gross Revenue                      | C\$ M |       | 421        | 0     | 82  | 78  | 69  | 54  | 59  | 49  | 30  |
| Net Revenue                        | C\$ M |       | 420        | 0     | 82  | 78  | 69  | 54  | 59  | 49  | 29  |
| Costs                              |       |       |            |       |     |     |     |     |     |     |     |
| Total Operating Cost               | C\$ M |       | 274        | 0     | 44  | 46  | 46  | 43  | 41  | 39  | 16  |
| Pre-production Capital Cost        | C\$ M |       | 58         | 58    | -   | -   | -   | -   | -   | -   | -   |
| Sustaining Capital Cost            | C\$ M |       | 5          | -     | 2   | 1   | 0   | 1   | 0   | 0   | 0   |
| Closure Cost                       | C\$ M |       | 5          | -     | 0   | 1   | 0   | 0   | 1   | 1   | 2   |
| NPIs                               | C\$ M |       | 6          | -     | 0   | 5   | 1   | 0   | 0   | 0   | 0   |
| Pre-Tax Economics                  |       |       |            |       |     |     |     |     |     |     |     |
| Net Pre-tax Cash Flow              | C\$ M |       | 73         | -58   | 35  | 25  | 22  | 11  | 17  | 9   | 12  |
| Cumulative Net Pre-tax Cash Flow   | C\$ M |       |            | -58   | -22 | 3   | 25  | 36  | 53  | 61  | 73  |
| IRR                                | %     | 36%   |            |       |     |     |     |     |     |     |     |
| Payback                            | Years | 1.9   |            |       |     |     |     |     |     |     |     |
| NPV at a Discount Rate of 7.5%     | C\$ M | 41    |            |       |     |     |     |     |     |     |     |
| After-Tax Economics                |       |       |            |       |     |     |     |     |     |     |     |
| Net After-tax Cash Flow            | C\$ M |       | 61         | -58   | 32  | 24  | 22  | 11  | 15  | 7   | 8   |
| Cumulative Net After-tax Cash Flow | C\$ M |       |            | -58   | -25 | -1  | 20  | 31  | 46  | 53  | 61  |
| IRR                                | %     | 32%   |            |       |     |     |     |     |     |     |     |
| Payback                            | Years | 2.1   |            |       |     |     |     |     |     |     |     |
| NPV at a Discount Rate of 7.5%     | C\$ M | 33    |            |       |     |     |     |     |     |     |     |

Notes:

1. Totals may not represent the sum of the parts due to rounding.

## **ECONOMIC ANALYSIS AT US\$1,300/OZ AU**

The pre-production capital expenditure for the Project is approximately \$58 million. Considering the Project on an all equity stand-alone basis, the undiscounted pre-tax cash flow totals approximately \$73 million and simple payback occurs approximately two years from the start of production, leaving a production tail of over four years. The Net Present Value (NPV) at a 7.5% discount rate is \$41 million and the Internal Rate of Return (IRR) is 36%.

The cash operating cost is US\$842/oz gold, while the all-in sustaining cost is US\$866/oz of gold.

On an after-tax basis, the undiscounted cash flow totals approximately \$61 million, the NPV at a 7.5% discount rate is \$33 million, and the IRR is 32%.

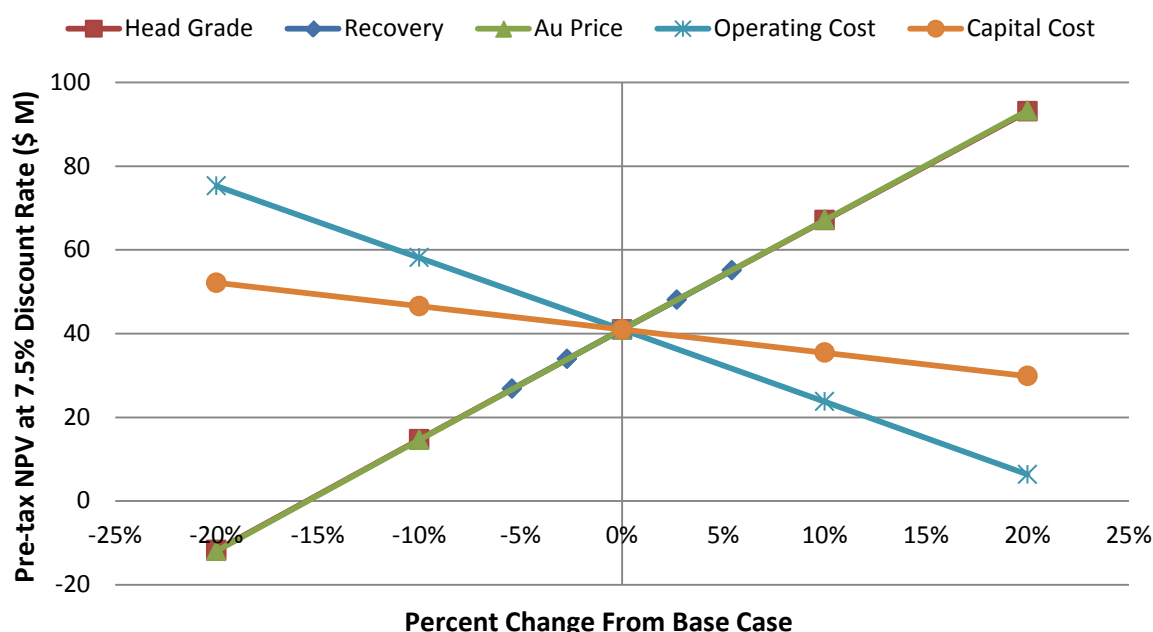
In RPA's opinion, the PEA indicates a viable project with a reasonable return on capital and consideration for further development is warranted.

## **SENSITIVITY ANALYSIS**

Project risks can be identified in both economic and non-economic terms. Key economic risks were examined by running cash flow sensitivities to:

- Revenue factors:
  - Gold price,
  - Head grade,
  - Gold recovery,
- Operating costs, and
- Pre-production capital costs.

Pre-tax NPV sensitivity over the base case has been calculated for -20% to +20% variations to the key economic parameters, with the exception of gold recovery, which was tested over a range of 87% to 97% gold recovery in increments of 2.5 percentage points. The sensitivities are shown in Figure 1-1 and Table 1-8.

**FIGURE 1-1 PRE-TAX SENSITIVITY ANALYSIS**

**TABLE 1-8 SENSITIVITY ANALYSIS**  
**Lexam VG Gold Inc. – Lexam VG Project**

| Pre-tax NPV Analysis<br>(C\$ millions) | -20% | -10% | Base<br>Case | +10% | +20% |
|--|------|------|--------------|------|------|
| Head Grade                             | -12  | 15   | 41           | 67   | 93   |
| Recovery                               | 27   | 34   | 41           | 48   | 55   |
| Gold Price                             | -12  | 15   | 41           | 67   | 93   |
| Operating Cost                         | 75   | 58   | 41           | 24   | 6    |
| Capital Cost                           | 52   | 47   | 41           | 35   | 30   |

**Notes:**

1. Pre-tax NPV presented at a 7.5% discount rate.
2. Gold recovery sensitivity is at 87%, 89.5%, 92%, 94.5%, and 97% corresponding to -20%, -10%, Base, +10%, and +20% columns respectively.

Project economics are most sensitive to changes in revenue factors. A 10% change in a revenue factor results in an approximate  $\pm \$26$  million change in the pre-tax NPV at a 7.5% discount rate.

Project economics are also sensitive to operating costs, and to a lesser extent capital costs. A 10% change in operating cost results in an approximate  $\pm \$17$  million change in the pre-tax NPV at a 7.5% discount rate, while a 10% change in capital cost results in an approximate  $\pm \$6$  million change in the pre-tax NPV at a 7.5% discount rate.

Table 1-9 presents a gold price sensitivity analysis on both a pre-tax and after-tax basis.

**TABLE 1-9 GOLD PRICE SENSITIVITY ANALYSIS**  
**Lexam VG Gold Inc. – Lexam VG Project**

| <b>Au Price<br/>(US\$/oz)</b> | <b>Percent Change<br/>From Base Case</b> | <b>Pre-tax NPV<br/>(\$ millions)</b> | <b>Pre-tax IRR<br/>(%)</b> | <b>After-tax NPV<br/>(\$ millions)</b> | <b>After-tax IRR<br/>(%)</b> |
|-------------------------------|--|--------------------------------------|----------------------------|--|------------------------------|
| 1,040                         | -20%                                     | -12                                  | -4%                        | -11                                    | -3%                          |
| 1,170                         | -10%                                     | 15                                   | 19%                        | 13                                     | 18%                          |
| <b>1,300</b>                  | <b>0%</b>                                | <b>41</b>                            | <b>36%</b>                 | <b>33</b>                              | <b>32%</b>                   |
| 1,430                         | 10%                                      | 67                                   | 52%                        | 53                                     | 44%                          |
| 1,560                         | 20%                                      | 93                                   | 67%                        | 73                                     | 55%                          |

Notes:

1. NPV presented at a 7.5% discount rate.

#### **PRODUCTION RATE SENSITIVITY**

In addition to the base case scenario, RPA completed a production rate sensitivity scenario at a gold price of US\$1,400/oz. RPA noted that at US\$1,400/oz (approximately 7.7% greater than the economic analysis base case), in-pit gold mineralization increased significantly. For the sensitivity scenario, RPA assumed a higher production rate, approximately 1.2 Mtpa (3,500 tpd), could be achieved with corresponding lower unit operating costs. Table 1-10 presents the production rate sensitivity comparison.

**TABLE 1-10 PRODUCTION RATE SENSITIVITY ANALYSIS**  
**Lexam VG Gold Inc. – Lexam VG Project**

| <b>Description</b>          | <b>Units</b>         | <b>Base Case<br/>Production Rate</b> | <b>Production Rate<br/>Sensitivity</b> |
|-----------------------------|----------------------|--------------------------------------|--|
| <b>Revenue Factors:</b>     |                      |                                      |  |
| Gold Price                  | US\$/oz              | 1,400                                | 1,400                                  |
| Exchange Rate               | C\$:US\$             | 0.90                                 | 0.90                                   |
| <b>Production Profile:</b>  |                      |                                      |  |
| Mine Life                   | years                | 6.5                                  | 9.2                                    |
| Mineralized Production Rate | tpd                  | 2,000                                | 3,500                                  |
| Stripping Ratio             | Waste:Mineralization | 9.6                                  | 9.9                                    |
| LoM Mineralized Production  | Mt                   | 4.4                                  | 11.1                                   |
| Grade                       | g/t Au               | 2.23                                 | 1.74                                   |
| Recovered Gold              | oz Au                | 293,000                              | 571,000                                |
| <b>Costs:</b>               |                      |                                      |  |
| All-in Sustaining Cost      | US\$/oz              | 875                                  | 944                                    |
| Initial Capital Cost        | C\$ M                | 58                                   | 95                                     |

| Description                    | Units | Base Case<br>Production Rate | Production Rate<br>Sensitivity |
|--------------------------------|-------|------------------------------|--------------------------------|
| Pre-tax Operating Performance: |       |                              |                                |
| Net Pre-tax Cash Flow          | C\$ M | 103                          | 174                            |
| IRR                            | %     | 49%                          | 42%                            |
| NPV at 7.5% Discount Rate      | C\$ M | 61                           | 91                             |
| Payback Period                 | years | 1.5                          | 2.0                            |

RPA notes recovered gold production almost doubles with the production rate sensitivity, resulting in an approximate 70% increase in net pre-tax cash flow and 50% increase in NPV. The IRR has decreased slightly because it is very sensitive to payback period, which has increased by half a year. The increase in all-in sustaining cost is due to the increase in stripping ratio, lower head grade, and increased NPI royalty payments.

RPA notes there are risks to the production rate sensitivity scenario beyond a higher gold price. Additional risks to consider are:

- Mineralized production rate - the models may not contain reasonable mineralized material tonnage per vertical metre to support the higher production rate without incurring significant and detrimental mining dilution.
- Toll processing - at increased production rates fewer toll processing facilities are available limiting options and flexibility.

Mining profitability – an underground mining trade-off study is required to determine if it is more profitable to mine a block by underground or open pit mining methods.

## TECHNICAL SUMMARY

### PROPERTY DESCRIPTION AND LOCATION

The Timmins Properties are located in Tisdale and Deloro Townships within the municipal boundaries of the City of Timmins (the City or Timmins) in northeastern Ontario. The four properties are located in two claim blocks, one located in the northern part of Tisdale Township (the Davidson Tisdale block) and a second block of contiguous claims comprising the Buffalo Ankerite, Fuller, and Paymaster Properties (the main cluster).

## **LAND TENURE**

Lexam currently holds 100% interest in the Buffalo Ankerite and Fuller Properties along with 60% interest in the claim forming the Paymaster Property and 68.5% interest in the Davidson Tisdale Property.

## **EXISTING INFRASTRUCTURE**

A 500 kV power line and transformer station runs within two kilometres of the Project's main cluster. Numerous operational gold processing facilities, as well as facilities on care and maintenance, are located in the Timmins area. The closest to the main cluster is the Dome Mine/Mill Complex owned and operated by Goldcorp. This complex is located approximately two kilometres northeast of the Paymaster pit and has a rated capacity between 12,000 tpd and 14,000 tpd dependant on rock hardness.

## **HISTORY**

The highlights of the ownership history and property reports are summarized as follows:

### ***BUFFALO ANKERITE PROPERTY***

- Prior to 1935, Buffalo Ankerite was developed by two independent owners. The operations were distinct and covered two different mineralized bodies, the South Zone (Buffalo Ankerite South) and the North Zone (Buffalo Ankerite North).
- In 1935, the operator of Buffalo Ankerite North, Buffalo Ankerite Gold Mines Limited (BAGM) consolidated both properties under its ownership.
- In 1953, the Buffalo Ankerite mine closed.
- Buffalo Ankerite was optioned to Placer Dome Canada Ltd. (Placer Dome) in 2002. Drilling totalled 15 holes at Buffalo Ankerite North and 59 holes at Buffalo Ankerite South.
- A resource estimate was carried out by Placer Dome on Buffalo Ankerite South in July 2002. The estimate does not comply with NI 43-101 rules and regulations and is considered historic in nature.

### ***FULLER PROPERTY***

- Periodic surface exploration has been done on Fuller since 1910 and limited production from the Fuller Claim (P13189) has occurred.
- In 1983, Vedron Gold Corp. (Vedron) diamond drilled more than 4,000 ft in 15 holes to test mineralization below the Fuller workings.

- Belmoral Mines Ltd. (Belmoral) conducted work from 1986 to 1989 and estimated mineral resources and a mining plan on behalf of Vedron.
- No further work was done from 1989 to 1996 when Vedron started drilling to explore the down-dip extension of the known mineralized body below the 650 ft level of the Fuller mine to the depth of the upper Buffalo Ankerite workings (1,550 ft level).
- Fuller was optioned to Placer Dome in 2002.
- Placer Dome carried out both field exploration and office database management activities on Fuller in early 2002, and drilled nine holes.

#### **PAYMASTER PROPERTY**

- Extensive work was done on the Paymaster property which resulted in the discovery of gold in 1910 on claim HR 908. Three shafts were sunk and mining was done with workings extending down to the 800-ft level on six levels.
- From 1924 to 1925 United Mineral Lands sank a 253 ft shaft and developed on 116 ft and 232 ft levels in the Paymaster No. 4 Shaft area.
- The present day Paymaster was formed with the amalgamation of several claim groups in 1930 by Paymaster Consolidated Mines Ltd.
- The West Porphyries were also mined from both the Preston and Dome mines. Production was mainly from narrow east/west trending, steeply dipping, shear hosted quartz veins. The mine ceased operation in April 1966.
- The property was acquired by Placer Dome in 1989.
- In 1995, Placer Dome drilled 47 holes to outline a near surface resource in the Paymaster No. 2 and No. 3 shaft area. In 1996, 28 additional holes were drilled along the mafic-ultramafic contact south of the No. 2 and No. 3 shaft area.
- Placer Dome conducted a two phase diamond drill program totaling 13,236 ft in 17 holes from 1999 to 2000 in the No. 4 shaft area.

#### **DAVIDSON TISDALE PROPERTY**

- The property was incorporated as Davidson Gold Mines Limited in 1911 and was succeeded in 1919 by Davidson Consolidated Gold Mines Limited (DCGM). In 1921, Porcupine Davidson Mines Limited was formed as a 50/50 joint venture with British interests. A legal dispute between the joint venture partners resulted in the suspension of work until 1925 when the control of the property reverted to DCGM. The property was subsequently sold to the Mining Contracting and Supply Company Ventures Limited (Mining Contracting and Supply) a predecessor company to Falconbridge Ltd. Mining Contracting and Supply sold the rights to Davidson Tisdale Mines Limited (DTM) in 1945. Through various joint ventures DTM has retained ownership rights.

- From 1911 to 1924 exploration included 4,070 m of surface diamond drilling and underground development by way of a small two-compartment exploration shaft (Main Shaft) sunk to a depth of 95 m.
- From 1933 to 1945, Mining Contracting and Supply drilled 1,557 m in 11 holes into and below the historical workings.
- In 1981, Dome Mines drilled 11 holes with one deep hole in the vicinity of the old workings.
- In 1983, a new group assumed control of DTM. New exploration grids were established and numerous geophysical surveys were completed.
- In early 1984, 11 holes were drilled in the vicinity of the Main Shaft area. This work was accompanied by underground mapping and sampling.
- On March 1, Getty Canadian Metals Limited (Getty) became operator and drill tested the Main Shaft Zone, and expanded the Smith Vet-T Zone and conducted limited in-fill drilling. These data were used to calculate an in-house resource for the Main Shaft Zone and South Zone.
- In 1985, a bulk sample was extracted to validate resources.
- In 1986 and 1987, a bulk sample was taken to test the Lower Vein system and the main ramp and the west ramp were both driven further. Approximately 6,000 m of diamond drilling was completed, along with detailed channel sampling.

## GEOLOGY AND MINERALIZATION

The Project is situated in the south-western part of the Abitibi Greenstone Belt within the Archean Superior Province. The geology of the Timmins Camp comprises a thick sequence of Archean volcanic and sedimentary rocks that have been intruded by synvolcanic and post tectonic felsic dykes. The volcanic-sedimentary sequence has been subdivided into three main groups, the Deloro, Tisdale and Porcupine Groups. The Porcupine syncline separates the camp into a north limb and a south limb with three Lexam properties, Fuller, Buffalo Ankerite and Paymaster on the south limb and Davidson Tisdale on the north limb.

Gold mineralization on the Lexam properties belongs to the structurally controlled Archean lode gold class of deposits. Mineralization occurs in highly carbonate-altered zones often in or adjacent to porphyry bodies. Gold occurs in a quartz vein zones associated with a strong shear and sericite-carbonate alteration halos. Commonly, the quartz conforms to the shearing along strike, but often cross cuts the shearing down dip. Locally the stringer zones are very irregular and contain very erratic gold values.



## **EXPLORATION STATUS**

The majority of the Lexam exploration on the four properties has been diamond drilling. Historically, the properties have all been underground gold producers and therefore historic surface and underground drilling is also available in limited details. Lexam has conducted extensive surface drilling on all four properties during the period 2003 through 2012.

## **MINERAL RESOURCES**

### ***BUFFALO ANKERITE PROPERTY***

P&E prepared Mineral Resource estimates for the Buffalo Ankerite North and South zones including the portions of these zones that lie on the east-adjacent Paymaster Property. The estimates have an effective date of June 1, 2013. The P&E estimate was carried out by three-dimensional (3D) computer block modelling in contrast to a previous estimate and NI 43-101 Technical Report which was completed in October 2012 by Bevan and Guy (2012) for Lexam and was based on the same drill hole database but utilized different parameters and the sectional polygonal method, the latter not well suited to open pit design and optimization.

Lexam and its consultants provided P&E with the drill hole and assay database, specific gravity data and wireframes of stopes and mine workings for the North and South zones. Preliminary wireframes for mineralization were also provided but these were extensively modified by P&E. The P&E estimates include data from both historical underground and surface drilling, and recent surface drilling by Lexam and its predecessor company. However, none of the historic underground chip/channel sampling data was available for the P&E estimates.

The drilling, sampling and assay data and the coordinate system are in Imperial Measure. P&E retained Imperial units for the resource estimate and resource reporting. Gold grades are in troy ounces per short ton and length measure is in feet.

The Mineral Resource estimates for the North and South zones on the Buffalo Ankerite Mine property are based entirely on surface and underground diamond drilling, core sampling and assaying. Mineral Resources in the North Zone were intersected by 735 holes totalling 240,418.21 ft (73,279 m) whereas those in the South Zone were intersected by 692 holes for 241,422.3 ft (73,586 m).

The Mineral Resources for the North and South zones were estimated by conventional 3D computer block modelling Dassault Systèmes GEOVIA GEMS Version 6.3 and 6.4 software package (GEMS). Mineral Resource estimation was constrained by mineral zone wireframes and used multiple search ellipses mapped to the zones orientations and inverse distance to the power of three ( $ID^3$ ) for grade interpolation. Resources were estimated for open pit and underground mining based on wireframe cut-off grades of 0.015 opt Au (0.5 g/t Au) for open pit and 0.045 opt Au (1.5 g/t Au) for underground. Preliminary open pits, with 45° slopes, were designed from the respective zones resource block models using Whittle software.

For the North Zone, P&E classified Indicated Resources as blocks lying within 150 ft of a drill hole (variogram range) and where two holes are present in this distance. Blocks in the model were coded using a 150 ft spherical search radius and with the number of holes found in the search. In the South Zone, a similar approach was employed based on a 100 ft distance to the nearest composite and the use of two holes from the first interpolation pass. The areas outlined were not as definitive as for the North Zone so the results were used as a guide to build solids encompassing the Indicated Resources. The solids were built from polylines on 100 ft cross sections. Blocks contained within both the classification solids and the mineral wireframes were coded as Indicated Resources. Blocks within the mineral wireframes but outside the classifications solids were classified as Inferred Resources. The Indicated Resource blocks formed well defined areas where drilling is spaced at 100 ft near surface in the east and central areas of the South Zone and where underground drill holes tested the zones in the west portion of the South Zone below the 10,000 ft elevation.

The Indicated and Inferred Resources within the Whittle optimized pits are summarized in Table 1-1. Resources outside the pits are considered as underground Mineral Resources. Table 1-2 summarizes the underground resources at a cut-off grade of 0.075 opt Au.

Mineral Resources are reported net of past production based on modelled stopes and drifts located in the mineral zones.

#### **FULLER PROPERTY**

RPA prepared an updated Mineral Resource estimate for the Fuller Property with the effective date of May 22, 2013. The previous Mineral Resource estimate was completed by Wardrop Engineering Inc. (Wardrop, now Tetra Tech) in 2007 and reported in a Technical

Report on the property prepared for VG Gold Corporation (Wardrop, 2007). Fifty-three additional drill holes have been completed on the property since the Wardrop estimate.

Lexam provided RPA with the current drill hole database as well as density measurements. Lithology and mineralization wireframes interpreted by Wardrop in the previous estimate, as well as composite samples used in the Wardrop estimation, were also provided to RPA. The current estimate includes data from both historical and recent drilling and underground sampling. Assay results for all drilling had been received at the time of the estimate.

The updated Mineral Resource estimate is based on 3D block modelling utilizing Datamine Studio 3 and GEMS Version 6.5. The Mineral Resources are unconstrained by wireframes: the block model was constrained by dynamic search angles and a constrained ellipse in the across strike direction. Dynamic angles used to dictate the orientation of the axes of the search ellipse were created by means of structural wireframe surfaces and strike and dip polylines representing the strike and dip of the main mineralized structural fabric. The block model and drill holes were domained coincidentally with grade interpolation by means of a probabilistic constraining technique to aid the validation of resulting estimates.

The Fuller open pit and underground Mineral Resource estimate is summarized in Table 1-3. The open pit resource is constrained within a preliminary pit shell. Resources located outside the pit shell are reported as underground resources. The Qualified Person for the Fuller Mineral Resource estimate is Katharine Masun, P.Geo., Senior Geologist with RPA. The effective date of the estimate is May 22, 2013.

#### **PAYMASTER PROPERTY**

RPA prepared an updated Mineral Resource estimate for the Paymaster Property with the effective date of May 22, 2013. The previous Mineral Resource estimate was completed by Kenneth Guy and Peter Bevan in 2010 and reported in a Technical Report on the property prepared for VG Gold Corporation (Guy and Bevan, 2010). Twenty-four additional drill holes have been completed on the property since the 2010 estimate.

The updated Mineral Resource estimate for the Paymaster Property is summarized in Table 1-4. The estimate was carried out using GEMS Version 6.4 in two stages. Initially, an open pit resource was estimated using a lower gold cut-off grade, and then an underground

resource was defined below the pit shell, at a higher gold cut-off grade. The Mineral Resources were classified as Indicated and Inferred, with all of the Indicated Resources located within the open pit. The Qualified Person for the Paymaster Mineral Resource estimate is Tudorel Ciuculescu, M.Sc., P.Geo., Senior Geologist with RPA. The effective date of the Paymaster Mineral Resource estimate is May 22, 2013.

A nominal minimum horizontal width of 20 ft was used as a guide for the open pit and five feet for the underground. The largest open pit mineralized wireframe straddles the existing stopes, while the rest of the mineralized wireframes are mostly parallel to the former. The underground wireframes are narrower and some of them represent the higher grade core of the open pit wireframes situated below the pit shell.

Lexam holds a 60% interest in the claim forming the Paymaster Property and respectively in the property's Mineral Resources.

#### **DAVIDSON TISDALE PROPERTY**

P&E prepared an updated Mineral Resource estimate for the Davidson Tisdale Property with an effective date of April 2, 2013.

The updated Mineral Resource estimate for the Davidson Tisdale Property was carried out in two stages using GEMS Version 6.4. Initially, an open pit resource was estimated using a lower gold cut-off grade of 0.5 g/t Au (0.015 opt Au), and then an underground resource was defined below the pit shell, at a higher gold cut-off grade of 2.6 g/t Au (0.75 opt Au). The Mineral Resources were classified as Measured, Indicated, or Inferred, with all of the open pit resources being either Measured or Indicated. The Qualified Persons for the Davidson Tisdale resource estimate were Yungang Wu, P.Geo., Eugene Puritch, P.Eng., and Antoine Yassa, P.Geo. of P&E.

In order for the constrained open pit mineralization in the Davidson Tisdale Property resource model to be considered potentially economic, a first pass Whittle 4X pit optimization was carried out to create a pit shell. The resulting resource estimate for the Davidson Tisdale Property is summarized in Table 1-5.

## MINERAL RESERVES

No Mineral Reserves have been estimated for the Project.

## MINING METHOD

The base case operating scenario for the Project includes open pit mining of Measured, Indicated, and Inferred Mineral Resources with direct shipping of mineralization to a toll processing facility for recovery of gold.

The mine design consists of five open pits in two areas. Four of the pits (Buffalo Ankerite South, Buffalo Ankerite North, Paymaster, and Fuller) are located in the “main cluster” approximately five kilometres southeast of Timmins city centre. The main cluster can be defined by a radius of approximately one kilometre. The fifth open pit (Davidson Tisdale) is located approximately nine kilometres to the east-northeast of Timmins city centre (approximately eight kilometres north-northeast of the main cluster).

Open pit development is characterized by relatively high stripping ratios as the primary production target is narrow steeply dipping veins. Initial operations will require external waste rock disposal areas, after which, pits may be backfilled.

Open pit production totals for the Life-of-Mine (LoM) are:

- 47.0 Mt total moved consisting of:
  - 4.4 Mt of mineralization,
  - 42.5 Mt of waste material,
  - Waste stripping ratio of 9.6:1 (waste : mineralization).
- Mineralized production, which has been factored for mining dilution and extraction, consists of:
  - 76,000 t of Measured Mineral Resources at 2.64 g/t Au for 6,500 oz of contained gold.
  - 3,348,000 t of Indicated Mineral Resources at 2.28 g/t Au for 245,500 oz of contained gold.
  - 1,020,000 t of Inferred Mineral Resources at 1.99 g/t Au for 65,100 oz of contained gold.
- Approximately 2% of contained gold is classified as Measured, 77% of contained gold is classified as Indicated, and 21% of contained gold is classified as Inferred.
- Steady state production of 0.7 Mtpa (approximately 2,000 tpd) of mineralization.
- Approximately 6.5 years of Run-of-Mine (RoM) production.

A mining contractor is proposed to mine a portion of the waste material in order to reduce capital costs. Owner mining is proposed to mine mineralized material and neighbouring waste. Thirty-five tonne capacity rigid frame dump trucks will be loaded with mineralized production at the dig face, and transport the mineralization to the selected toll processing facility.

## **MINERAL PROCESSING**

For the Project, metallurgical testwork was done on the Buffalo Ankerite, Paymaster, Fuller, and Davidson Tisdale Properties and some historic operating data was reviewed by RPA. The results from the historical work were used to estimate the gold recovery, although there is little information about sample location. For purposes of this evaluation, the data from testwork that included gravity concentration and cyanidation of the gravity tailings was used; however, the results from tests that utilized gravity, flotation, and cyanidation of the flotation concentrate were very similar so the results would not change appreciably.

In 2013, five samples from all four Properties that comprise the Project were submitted to SGS Canada for confirmation testing. Only the results of the tests conducted at the finer grind sizes were used to estimate the gold recovery because the total recoveries were higher. Gold recovery estimates used for the economic analysis of this PEA are as follows:

- Buffalo Ankerite South – 93.7%
- Buffalo Ankerite North – 94.2%
- Paymaster – 91.8%
- Fuller – 89.0%
- Davidson Tisdale – 92.0%

The more recent data for the Fuller and Davidson Tisdale Properties indicates that the gold recovery could be somewhat higher than the recovery used. Based on RPA's evaluation, it appears that the samples used for the recent metallurgical testing are not representative of the material contained within the pit shells.

## **PROJECT INFRASTRUCTURE**

The Project is well serviced with existing infrastructure and is in close proximity to numerous major service providers. Site infrastructure requirements are minimal as processing of mineralization along with containment of tailings will be located off-site at a toll processing facility.

The primary components of Project infrastructure include:

- Re-alignment of Gold Mine Road;
- Power supply and distribution;
- Surface water management infrastructure;
- Open pit areas;
- Waste storage areas;

## **MARKET STUDIES AND CONTRACTS**

It is assumed that gold doré from the Project will be sold on the international market. The three-year rolling average gold price through the end of March 2014 was US\$1,542/oz. This PEA uses a long term consensus price of US\$1,300/oz gold for the economic analysis.

No contracts or negotiations are in place at this time for the development of the Project.

## **ENVIRONMENTAL, PERMITTING AND SOCIAL CONSIDERATIONS**

Several environmental studies and documents have been previously completed for the various properties that make up the Project, which will provide useful baseline information, however, additional data collection and studies will be required in order to obtain approval to mine. Including a federal environmental assessment, a provincial closure plan, and various provincial permit requirements, the process to approve the Project will likely take several years. There is a possibility that a federal environmental assessment could be avoided, if Lexam can demonstrate there will be no potential for environmental effects in areas of federal jurisdiction, which include fish and fish habitat, other aquatic species, and migratory birds. This could shorten the approval process, however, it would still likely take two years from present for other approvals. The first step would be to prepare a project description and submit it to the Canadian Environmental Assessment Agency to determine if an environmental assessment will be required. Apart from the environmental assessment, the most time consuming approvals will include those for discharge of industrial effluent, air and noise emissions, and a permit to take water (for dewatering). Baseline studies to support these approvals should be prioritized to minimize the time required for approval. Consultation with the public and First Nations should also be prioritized.

## **CAPITAL AND OPERATING COST ESTIMATES**

All costs are expressed in fourth quarter 2013 Canadian dollars (C\$ or \$) unless otherwise specified.

### **CAPITAL COSTS**

The estimated cost to construct and commission the Project as described in this PEA is approximately C\$58 million. This amount includes the direct field costs of executing the Project, plus indirects and Owner's costs associated with design, construction, and commissioning. Cost estimates are based on the PEA design, and are considered to have an accuracy of +/- 35%. Capital costs are summarized in Table 1-11.

**TABLE 1-11 CAPITAL COST SUMMARY**  
**Lexam VG Gold Inc. – Lexam VG Project**

| <b>Area</b>                         | <b>Construction Cost<br/>(C\$ millions)</b> | <b>Ongoing Cost<br/>(C\$ millions)</b> | <b>Total Cost LoM<br/>(C\$ millions)</b> |
|-------------------------------------|---|--|--|
| Infrastructure                      | 7   | 3                                      | 9  |
| Mine                                | 25  | 1                                      | 26                                       |
| Resettlement                        | 8   | 1                                      | 9  |
| <b>Subtotal Direct Capital Cost</b> | <b>40</b>                                   | <b>5</b>                               | <b>44</b>                                |
| Indirect Cost                       | 3   | 0                                      | 3  |
| Owner's Cost                        | 5   | 0                                      | 5  |
| Contingency                         | 10  | 0                                      | 10                                       |
| Closure                             | 0   | 5                                      | 5  |
| <b>Total Capital Cost</b>           | <b>58</b>                                   | <b>9</b>                               | <b>67</b>                                |

Notes:

1. Totals may not represent the sum of the parts due to rounding.

Exclusions from the capital cost estimate include, but are not limited to, the following:

- Project financing and interest charges;
- Working capital;
- Taxes, import duties, and custom fees.

### **OPERATING COSTS**

Operating costs are estimated for a steady state of 0.7 Mtpa production (2,000 tpd) on a year round operating basis. Total operating costs average approximately \$42 million per year. Operating unit and total costs are summarized in Table 1-12.



**TABLE 1-12 OPERATING COST SUMMARY**  
**Lexam VG Gold Inc. – Lexam VG Project**

| <b>Area</b>                 | <b>Units</b>            | <b>LoM Unit Cost</b> | <b>Total Cost LoM<br/>(C\$ millions)</b> |
|-----------------------------|-------------------------|----------------------|--|
| Mining                      | C\$/t moved             | 3.45                 | 162                                      |
| Mining                      | C\$/t production        | 36.46                | 162                                      |
| Processing                  | C\$/t production        | 17.96                | 80                                       |
| G&A                         | C\$/t production        | 7.31                 | 32                                       |
| <b>Total Operating Cost</b> | <b>C\$/t production</b> | <b>61.73</b>         | <b>274</b>                               |
| Cash Operating Cost         | US\$/oz Au produced     | 842                  |  |

Notes:

1. Totals may not represent the sum of the parts due to rounding.

## 2 INTRODUCTION

Roscoe Postle Associates Inc. (RPA) was retained by Lexam VG Gold Inc. (Lexam or the Company) to prepare an independent Preliminary Economic Assessment (PEA) and an independent Technical Report on the Buffalo Ankerite, Fuller, Paymaster, and Davidson Tisdale properties (the Project or the Timmins Properties), located in Timmins, Ontario, Canada. The Technical Report conforms to National Instrument 43-101 Standards of Disclosure for Mineral Projects (NI 43-101) and was prepared jointly by RPA and P&E Mining Consultants Inc. (P&E) at the request of Lexam.

Lexam was formed on January 1, 2011, by the merger of Lexam VG Explorations Inc. and VG Gold Corp. The principal business of Lexam is to explore and develop its Timmins Properties and to acquire additional gold properties in the Timmins area. Lexam's Chairman, Rob McEwan, holds a 27% interest in the Company. Lexam currently holds a 100% interest in the Buffalo Ankerite and Fuller properties along with a 60% interest in the claim forming the Paymaster property and a 68.5% interest in the Davidson Tisdale property.

Lexam is headquartered in Toronto, Ontario, with exploration offices in Timmins, Ontario. The Company trades on the Toronto Stock Exchange (TSX:LEX), on the Over-the-Counter exchange in the United States (OTCQX:LEXVF), and on the Frankfurt Exchange (FWB:VN3A) in Germany.

This report is considered by RPA to meet the requirements of a PEA as defined in Canadian NI 43-101 regulations. The economic analysis contained in this report is based, in part, on Inferred Resources, and is preliminary in nature. Inferred Resources are considered too geologically speculative to have mining and economic considerations applied to them and to be categorized as Mineral Reserves. There is no certainty that economic forecasts on which this PEA is based will be realized.

## **SOURCES OF INFORMATION**

### **SITE VISITS**

Mr. Tudorel Ciuculescu, P.Geo., Senior Geologist with RPA, and a “Qualified Person” under the terms of NI 43-101, conducted a site visit to the Paymaster Property from November 29 to 30, 2012. No validation sampling was completed at that time.

Ms. Katharine Masun, P.Geo., Senior Geologist with RPA, and a “Qualified Person” under the terms of NI 43-101, conducted a site visit to the Fuller Property on November 20 and 21, 2012. No validation sampling was completed at that time.

Mr. Antoine Yassa, P.Geo., Consulting Geologist with P&E, and a “Qualified Person” under the terms of NI 43-101, conducted a site visit to both the Buffalo Ankerite and Davidson Tisdale properties on November 3, 4 and 6, 2012 (3 days). During that period, a validation sampling program was completed as part of a larger, more inclusive quality assurance/quality control (QA/QC) sampling program.

Mr. Glen Ehasoo, P. Eng., Senior Mining Engineer with RPA, and a “Qualified Person” under the terms of NI 43-101, conducted a site visit to the Timmins Properties from October 8 to 9, 2013.

Mr. Jeff Martin, P. Eng., Associate Principal Environmental Specialist with RPA, and a “Qualified Person” under the terms of NI 43-101, conducted a site visit to the Timmins Properties from October 8 to 9, 2013.

### **QUALIFIED PERSONS AND RESPONSIBILITIES**

This Technical Report has been prepared under the supervision of Mr. Ehasoo. Table 2-1 lists the Qualified Persons and their responsibilities.

**TABLE 2-1 QUALIFIED PERSONS**  
**Lexam VG Gold Inc. – Lexam VG Project**

| Qualified Person              | Company | Responsible in full for Sections | Contributed to Sections |
|-------------------------------|---------|----------------------------------|-------------------------|
| Glen Ehasoo, P. Eng.          | RPA     | 15,16,18,19,21,22,24             | 1-5, 25, 26, 27         |
| Tudor Ciuculescu, P. Geo      | RPA     |                                  | 1, 11, 12, 14, 30       |
| Katharine Masun, P. Geo       | RPA     |                                  | 1-12, 14, 25-27, 30     |
| Kathleen Ann Altman, P.E.     | RPA     | 13,17                            | 1, 23, 25-27            |
| Jeff Martin, P.Eng.           | RPA     | 20                               | 1, 25, 26               |
| Dr. Wayne Ewert, P.Geo.       | P&E     | 4-10                             | 1, 23, 25, 26           |
| Mr. Eugene Puritch, P.Eng.    | P&E     |                                  | 1, 14, 25, 26           |
| Ms. Tracy Armstrong, P.Geo.   | P&E     |                                  | 1, 11, 12               |
| Mr. Yungang Wu, P.Geo.        | P&E     | 31, 32, 33, 34, 35, 36           | 1, 14, 25, 26, 30       |
| Mr. Antoine Yassa, P.Geo.     | P&E     |                                  | 1, 12, 14               |
| Mr. Richard Routledge, P.Geo. | P&E     |                                  | 1, 14, 25, 26           |

During the preparation of this report, discussions were held with the following personnel:

- Mr. Kenneth Guy, P. Geo., Exploration Manager, Lexam VG Gold Inc.
- Gerry McDonald, Operations Manager, Lexam VG Gold Inc.

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

## LIST OF ABBREVIATIONS

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

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

### **3 RELIANCE ON OTHER EXPERTS**

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

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

For the purpose of this report, RPA has relied on ownership information provided by Lexam. Neither RPA nor P&E has researched property title or mineral rights for Lexam's Timmins Properties and expresses no opinion as to the ownership status of the property.

RPA has relied on Lexam for guidance on applicable taxes, royalties, and other government levies or interests, applicable to revenue or income from the Project.

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

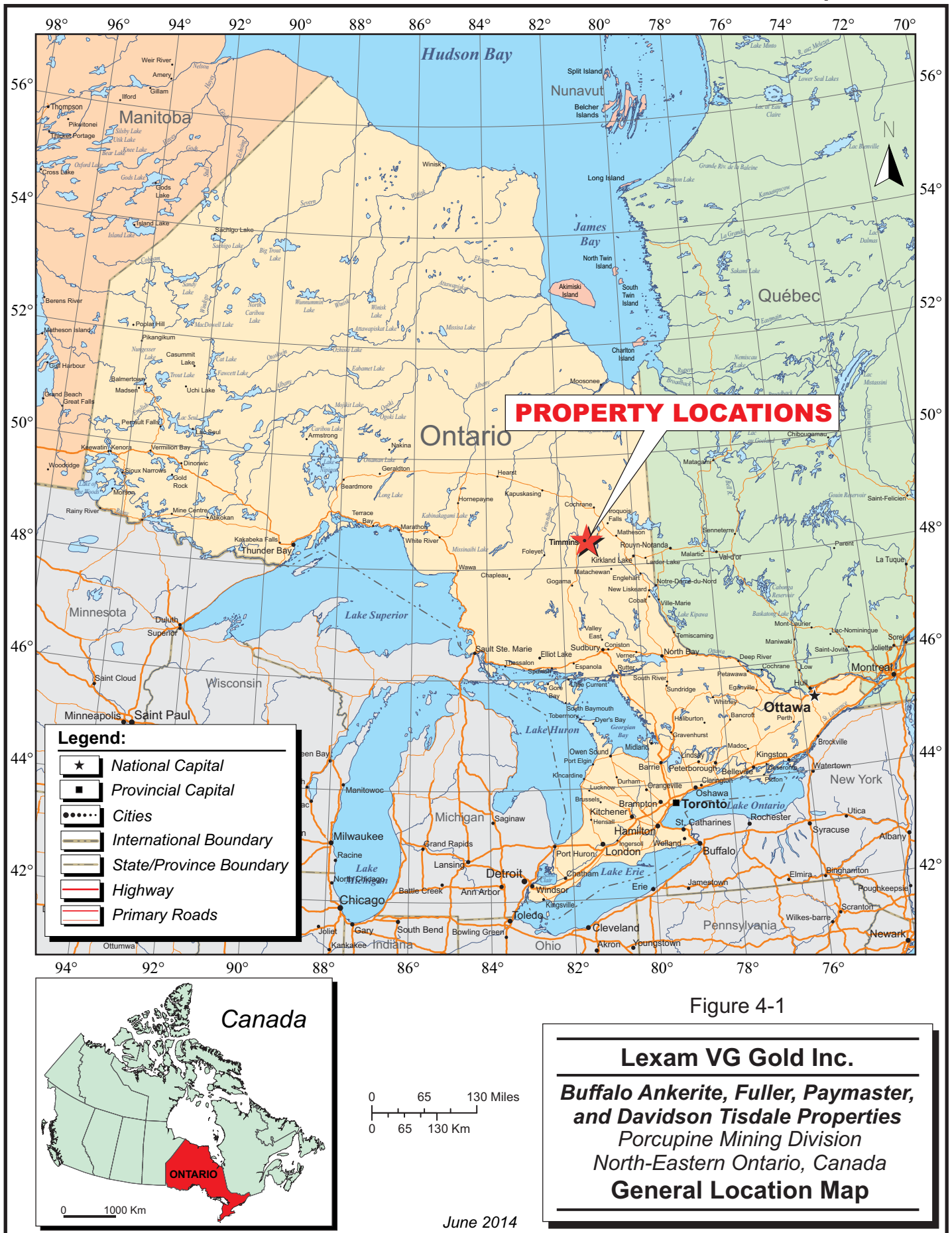
## 4 PROPERTY DESCRIPTION AND LOCATION

The Timmins Properties are located in Tisdale and Deloro Townships within the municipal boundaries of the City of Timmins (the City or Timmins) in northeastern Ontario (Figure 4-1). The Timmins Properties are past producers and part of the historic Porcupine Gold Camp (PGC), which accounted for more than 67 M oz of gold production over the past 100 years. Figure 4-2 shows the location of the Timmins Properties relative to other gold projects in the PGC.

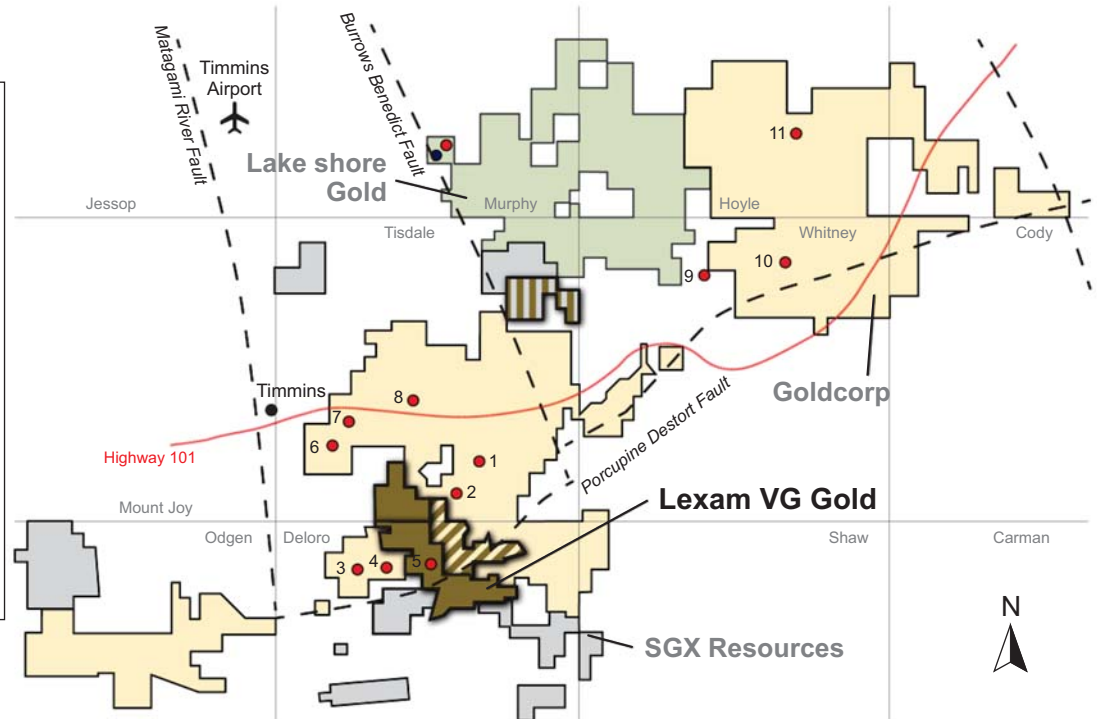
The Timmins Properties are located in two claim blocks, one in the northern part of Tisdale Township (the Davidson Tisdale block) and a second block of contiguous claims comprising the Buffalo Ankerite, Fuller, and Paymaster properties (the main cluster) in Tisdale and Deloro Townships. The two claim blocks are shown in Figure 4-3.

Lexam owns a 100% interest in the Buffalo Ankerite and Fuller properties, a 60% interest in the Paymaster property, with the remaining 40% of mineral rights held by Goldcorp Inc., and a 68.5% interest in the Davidson Tisdale property, with the remaining 31.5% of the mineral rights held by SGX Resources Inc. Each property is discussed individually in the following subsections.

RPA is not aware of any environmental liabilities on the Timmins Properties nor is RPA aware of any other significant factors and risks that may affect access, title, or the right or ability to perform the proposed work program on the Timmins Properties. Lexam reports that all permits required to conduct the proposed work on the Timmins Properties have been obtained.







**Gold Production (In Million of Ounces)**

|              |            |                     |            |              |            |                 |           |
|--------------|------------|---------------------|------------|--------------|------------|-----------------|-----------|
| 1. Dome      | -17.2 M oz | 4. Aunor            | -2.5 M oz  | 7. McIntyre  | -10.7 M oz | 10. Pamour No.1 | -3.2 M oz |
| 2. Paymaster | -1.2 M oz  | 5. Buffalo Ankerite | -1.0 M oz  | 8. Coniaurum | -1.1 M oz  | 11. Hoyle Pond  | -0.5 M oz |
| 3. Delnite   | -0.9 M oz  | 6. Hollinger        | -19.3 M oz | 9. Hallnor   | -1.6 M oz  |                 |           |

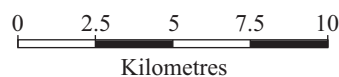
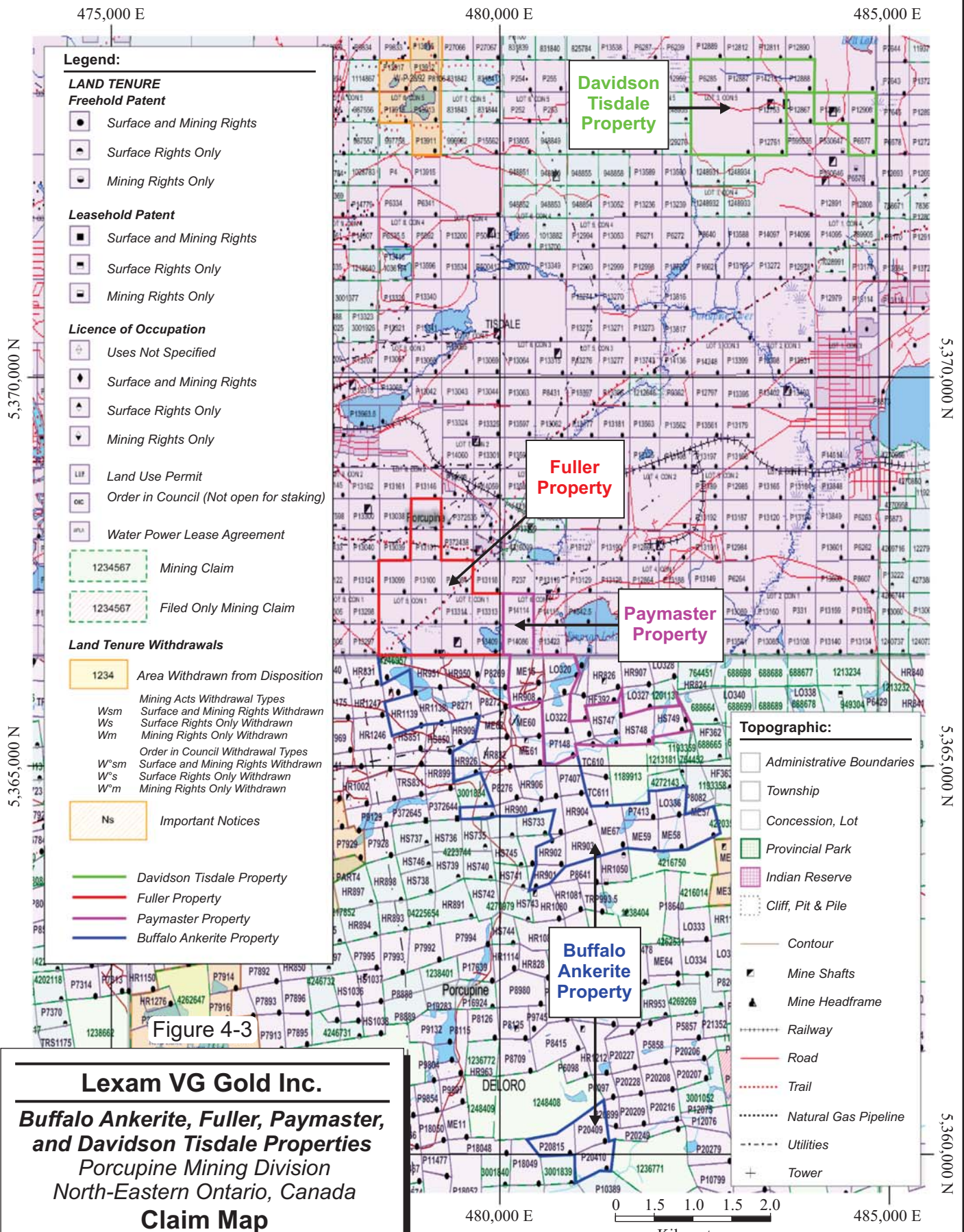


Figure 4-2

**Lexam VG Gold Inc.**  
**Buffalo Ankerite, Fuller, Paymaster,**  
**and Davidson Tisdale Properties**  
 Porcupine Mining Division  
 North-Eastern Ontario, Canada  
**Property Location Map**



## BUFFALO ANKERITE PROPERTY

The Buffalo Ankerite Property (Buffalo Ankerite) consists of 36 patented mining rights/claims with an area of 491.4 ha (1,214.2 acres) in the north half of Deloro Township. Buffalo Ankerite is located approximately 5.6 km southeast of the Timmins city centre. The property, a past producer, is situated in the historic PGC (Figures 4-2 and 4-3). The property boundaries were located either in the field, by the use of historical records, or from the claim map issued by the Minister of Northern Development, Mines and Forestry (MNDMF). Buffalo Ankerite contains an area of previous surface mining (fenced off with security) dating from the early 1980s, as well as a few historical shaft collars. A historical tailings pile is also found on the southern section of the property.

A list of claims appears in Table 4-1 and a claim location map is shown in Figure 4-4.

**TABLE 4-1 LIST OF BUFFALO ANKERITE CLAIMS (DELORO TOWNSHIP)**  
**Lexam VG Gold Inc. – Lexam VG Project**

| Patent No./Licence                 | Parcel No. |
|------------------------------------|------------|
| ME60 15 SEC                        | 23816 SEC  |
| ME61 16 SEC                        | 23816 SEC  |
| ME62 17 SEC                        | 23816 SEC  |
| P7407 54 SEC                       | 23816 SEC  |
| P7406 55 SEC                       | 23816 SEC  |
| P7426 (HR 905) 183 SEC             | 23816 SEC  |
| P7426A                             | 23816 SEC  |
| P7413 (ME73) 186 SEC               | 23816 SEC  |
| HR906 1321 SEC                     | 23816 SEC  |
| P7934 (HR 952) 2725 SEC            | 23816 SEC  |
| P8269 (ExpPt2:6R-1903) 3275 SEC    | 23816 SEC  |
| P8271 (ME50) 3276 SEC              | 23816 SEC  |
| P8271 (ME50) 3276 SEC (sic)        | 23816 SEC  |
| PT P8272 (ExpPt2:6R-1903) 3279 SEC | 23816 SEC  |
| P8204 (LO 336) 3377 SEC            | 23816 SEC  |
| P9598 (HR 904) 4155 SEC            | 23816 SEC  |
| P9600 (HR 902) 4 156 SEC           | 23816 SEC  |
| P9599 (HR 903) 4157 SEC            | 23816 SEC  |
| P9605 (ME 57) 4158 SEC             | 23816 SEC  |
| P9604 (ME 58) 4161 SEC             | 23816 SEC  |
| P9603 (ME 59) 4162 SEC             | 23816 SEC  |
| P9602 (ME 67) 4163 SEC             | 23816 SEC  |
| P9601 (HR 901) 4164 SEC            | 23816 SEC  |



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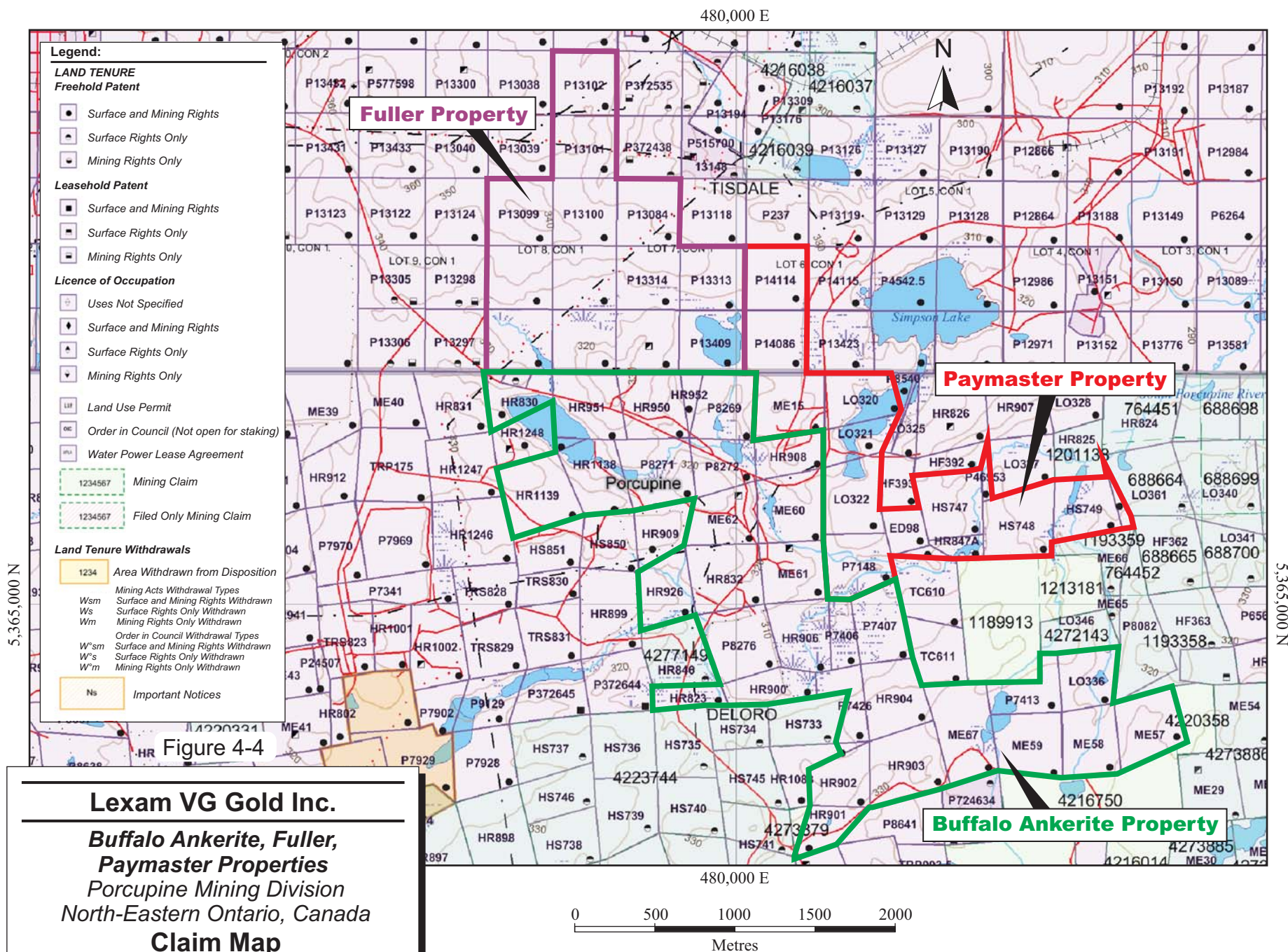
| Patent No./Licence         | Parcel No. |
|----------------------------|------------|
| HR832 5038 SEC             | 23816 SEC  |
| HR823 5039 SEC             | 23816 SEC  |
| P8276 5040 SEC             | 23816 SEC  |
| HR926 5041 SEC             | 23816 SEC  |
| HR900 5042 SEC             | 23816 SEC  |
| HR950 (TRS 775) 5998 SEC   | 23816 SEC  |
| HR951 (TRS 774) 22957 SEC  | 23816 SEC  |
| HR1138 (TRS 1280) 2525 SEC | 23816 SEC  |
| HR951 (TRS 774) 22957 SEC  | 23817 SEC  |
| HR1138 (TRS 1280) 2525 SEC | 23817 SEC  |
| HR1139 (TRS 1281) 2566 SEC | 23817 SEC  |
| HR830 (P7251)              | 23817 SEC  |
| P24590                     | 23817 SEC  |
| P20410                     | 23818 SEC  |
| P20815                     | 23818 SEC  |
| P20409                     | 23818 SEC  |

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Lexam holds the mineral rights through either Lexam or VG Holdings, a wholly-owned subsidiary of Lexam. Numerous subdivided land parcels (surface rights) are owned and/or occupied by homeowners in the area. The remainder of the surface rights are held by either RiLoro Corporation or Lexam. A small neighbourhood of approximately 20 homes is located on the Buffalo Ankerite.

The Buffalo Ankerite is subject to a net profits interest (NPI) royalty. A 10% NPI is due on all claims except for the south pit area of the South Mine (claims ME61, HR906, HR832, and P8276), where the NPI is 20% on mineralization mined by open pit mining methods. The NPI is payable to The Summit Organization Inc. (Summit). RPA is not aware of any additional encumbrances on the property.

Lexam has received the permit to take water for the Buffalo Ankerite. A closure plan application is in progress (75% completed). The permits for sewage and for air/noise emissions are in the final stages of approval. A closure plan for an open pit mining plan is in final stages of completion. Negotiations with the City on a Site Plan Control Agreement (SPCA) will be required as project planning approaches the pre-development exploitation stage.



## FULLER PROPERTY

The Fuller Property (Fuller) consists of 13 patented mining claims covering an area of 210.2 ha (519.4 acres) in Tisdale Township within the Porcupine Mining Division.

Fuller is located approximately three kilometres southeast of the Timmins city centre (Figures 4-2 and 4-3). An all-weather paved road to central Timmins locally referred to as the "Gold Mine Road" (GMR) or the "Back Road" crosses by the southwest corner of the property. The inactive underground workings on the property are accessible by gravel covered side-roads. The southeast portion of the property is undeveloped, but there are roads within two kilometres of any point. Infrastructure on the property consists of the underground workings, a warehouse building, a small core shack, and grid electrical power.

Lexam holds a 100% interest in Fuller. The claims comprise parts of surveyed lots as shown in Figure 4-4 and as outlined in Table 4-2.

**TABLE 4-2 LIST OF FULLER CLAIMS (TISDALE TOWNSHIP)**  
**Lexam VG Gold Inc. – Lexam VG Project**

| <b>Description</b>                       | <b>Claim No.</b>       | <b>Area (ha)</b> |
|--|------------------------|------------------|
| SW1/4, N1/2 , Lot 7, Con 1               | P13084                 | 16.14            |
| SW1/4 , N1 /2, Lot 8, Con 1              | P13099                 | 16.19            |
| SE1 /4, N1 /2 , Lot 8, Con 1             | P13100                 | 16.19            |
| NE1 /4, N1 /2, Lot 8, Con 1              | P13101                 | 16.19            |
| SE Pl., S Pl, Lot 8. Con 2               | P13102                 | 16.19            |
| NE1/4. S1/2 , Lot 7, Con 1               | P13313                 | 16.14            |
| NW1/4. S1 /2, Lot 7, Con 1               | P13314                 | 16.14            |
| SE1/4, S1/2, Lot 7, Con 1 (Dobie Claim)  | P13409                 | 16.14            |
| SW1/4, S1/2. Lot 7, Con 1 (Fuller claim) | P13189, P44835, P44836 | 16.14            |
| S1/2 Lot 8, Con 1 (Chisholm Property)    | P44837, P44838         | 64.75            |

A ramp to access the underground workings was excavated in the 1980s. It is collared on a single patented claim (P13189), called the "Fuller Claim" for which Lexam owns both the surface and the mineral rights. In 2008, Lexam acquired from Goldcorp Inc. (Goldcorp) the mineral rights for a parcel consisting of four claim units, called the "Chisholm Property" (S1/2 of Lot 8, Con 1). In exchange for the mineral rights on the Chisholm Property, Lexam granted Goldcorp the surface rights to five Fuller claims (P13099, P13100, P13313, P13314, and P13084).

The Fuller Claim and the Chisholm Property are free of any NPI. The remaining claims of Fuller are subject to a 10% NPI royalty, which is payable to Summit.

Lexam has received the permit to take water for Fuller. A closure plan application is in progress (75% completed). The permits for sewage and for air/noise emissions are in the final stages of the approval process. A closure plan is in final stages of completion and a SPCA with the City is required when Fuller reaches the pre-development exploitation stage.

## **PAYMASTER PROPERTY**

The Paymaster Property (Paymaster) consists of 15 contiguous claim units covering 179.2 ha (442.8 acres), with two claim units located in the south central part of Tisdale Township and the remaining 13 claim units in the north central part of Deloro.

Paymaster is located on the GMR, the road which connects South Porcupine to Timmins and bisects the property as illustrated in Figures 4-2 and 4-3. Numerous mine roads are found throughout the remainder of Paymaster.

Paymaster lies to the east of Buffalo Ankerite and Fuller, which are both wholly-owned by Lexam, and to the west of the Dome Mine, owned by Goldcorp. The Paymaster hosts zones of gold mineralization, which are continuations of those previously explored by Lexam on its Buffalo Ankerite and Fuller properties.

The claims of Paymaster are shown in Figure 4-4 and outlined in Table 4-3.



**TABLE 4-3 LIST OF PAYMASTER CLAIMS**  
**Lexam VG Gold Inc. – Lexam VG Project**

| Description   | Claim No.      | Township | Area (ha) |
|---|----------------|----------|-----------|
| PIN65398-0146(LT), Parcel 4455SWS<br>(Mining rights from Surface to 4075 ft Level only, 12,006.8 elevation)     | P14114         | Tisdale  | 16.39     |
| PIN65398-0147(LT) Parcel 4456SWS<br>(Mining rights from Surface to 4075 ft Level only, 12,006.8 MASL elevation) | P14086         | Tisdale  | 16.39     |
| PIN65442-0212(LT), Parcel 2441SEC   | ME15           | Deloro   | 17.60     |
| P1N65442-0214(LT) Parcel 2440SEC  | HR908          | Deloro   | 10.12     |
| PIN65442-0206(LT) Parcel 2477SEC  | L0320          | Deloro   | 14.33     |
| PIN65442-0624(LT) Parcel 2526SEC  | L0321          | Deloro   | 8.98      |
| PIN65442-0204(LT) Parcel 2527SEC  | L0322          | Deloro   | 16.51     |
| PIN65442-0203(LT) Parcel 12SEC  | L0323          | Deloro   | 15.48     |
| PIN65442-0218(LT) Parcel 2512SEC  | ED98           | Deloro   | 7.20      |
| PIN65442-0202(L T) Parcel 275SEC  | HR1085, HR847A | Deloro   | 5.06      |
| PIN65442-0219(LT) Parcel 15188SEC   | HS747          | Deloro   | 15.42     |
| PIN65442-0580(LT) Parcel 13257SEC   | HR1010         | Deloro   | 1.42      |
| PIN65442-0231 (LT) Parcel 15187SEC  | HS748          | Deloro   | 17.89     |
| PIN65442-0236(LT) Parcel 15189SEC   | HS749          | Deloro   | 14.69     |
| PIN65442-0239(LT) Parcel 3877SEC  | HF390          | Deloro   | 1.70      |

Lexam optioned the Paymaster from Goldcorp in 2008 and earned 60% ownership interest in mineral rights in 2012. The remaining 40% interest in the mineral rights is retained by Goldcorp who has fully funded the closure plan for the Paymaster. RPA is not aware of any royalties, back-in rights, payments, or other agreements or encumbrances to which the Paymaster property may be subject.

## DAVIDSON TISDALE PROPERTY

The Davidson Tisdale Property (Davidson Tisdale) consists of ten claims covering 207.7 ha (513.2 acres) in Tisdale Township. Davidson Tisdale is accessible via all-weather road off of Crawford Street in South Porcupine. It is located approximately three kilometres along strike from the historical Hollinger, McIntyre, and Coniarum mines which have collectively produced in excess of 31 M oz of gold.

The claims of Davidson Tisdale are shown in Figure 4-5 and outlined in Table 4-4.



**TABLE 4-4 LIST OF DAVIDSON TISDALE CLAIMS**  
**Lexam VG Gold Inc. – Lexam VG Project**

| PIN Number      | Parcel  | Claim Number  | Area (ha) | ¼  | ½ | Lot | Concession |
|-----------------|---------|---------------|-----------|----|---|-----|------------|
| 65399-0130 (LT) | 3848WT  | P12761        | 15.93     | SW | S | 2   | 5          |
| 65399-0129 (LT) | 3847WT  | P12753        | 15.93     | NW | S | 2   | 5          |
| 65399-0157 (LT) | 14003WT | P12886        | 15.38     | NW | S | 1   | 5          |
|                 |         | P12906        | 15.38     | NE | S | 1   | 5          |
|                 |         | P6577         | 16.39     | SE | S | 1   | 5          |
| 65399-0134 (LT) | 3853WT  | P14125 ½      | 15.93     | SW | N | 2   | 5          |
| 65399-0133 (LT) | 3852WT  | Vet lot - all | 64.55     |    | S | 3   | 5          |
| 65399-0155 (LT) | 14004WT | P6285         | 16.14     | SW | N | 3   | 5          |
|                 |         | P12887        | 16.14     | SE | N | 3   | 5          |
|                 |         | P12888        | 15.93     | SE | N | 2   | 5          |

Lexam earned a 68.5% interest in the mining rights of Davidson Tisdale in 2009 from Laurion Mineral Exploration Inc., with the remaining 31.5% of the mining rights held by SGX Resources Inc. Surface rights to these claims are held by different entities, namely, ERG Resources, Davidson Tisdale Mines Limited, and the City.

Lexam has a closure plan for Davidson Tisdale as well as the following permits:

- permit to take water
- sewage permit
- air/noise emissions permit

RPA is not aware of any royalties, back-in rights, payments, or other agreements and encumbrances on Davidson Tisdale that may affect access, title, or the ability to perform work on the property.

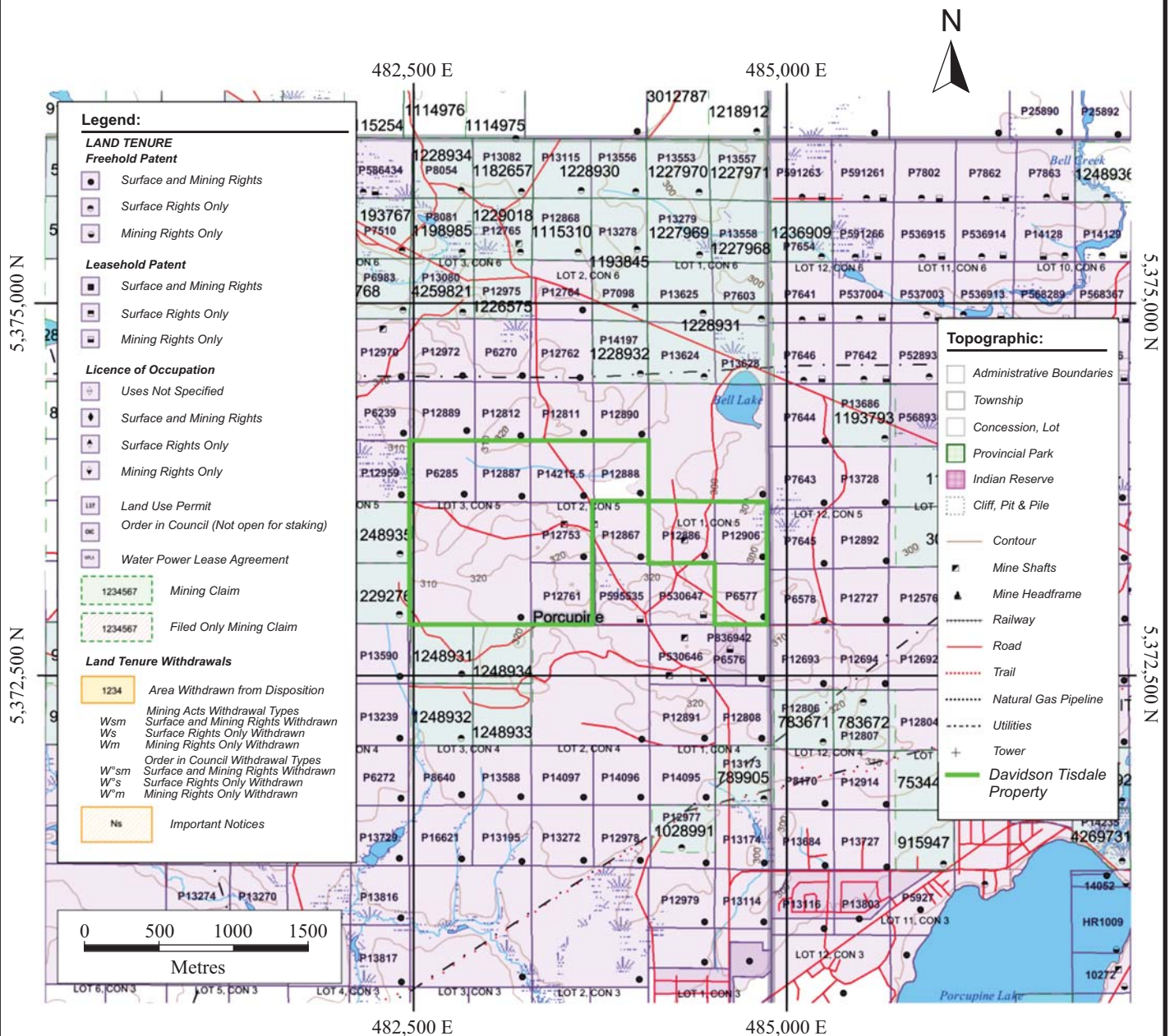


Figure 4-5

**Lexam VG Gold Inc.**

**Davidson Tisdale Property**  
 Porcupine Mining Division  
 North-Eastern Ontario, Canada  
**Claim Map**

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

### **ACCESSIBILITY**

The area is serviced from Toronto via Highways 400 and 69 to Sudbury, and Highway 144 to Timmins; or Highway 11 from Barrie to Matheson and Highway 101 westward to Timmins. The City is also serviced by regularly scheduled airline flights from Toronto.

All claims pertaining to the Timmins Properties are located within the Municipality of Timmins and are accessible by either provincial or municipal roads. The Buffalo Ankerite, Paymaster, and Fuller properties are all near or intersected by the secondary GMR highway. The Davidson Tisdale property is accessible by an all-weather gravel road north of Crawford Street in South Porcupine.

### **CLIMATE**

The Timmins Properties experience a continental climate with an average mean temperature range of  $-17.5^{\circ}\text{C}$  (January) to  $+17.4^{\circ}$  (July). Typical temperature variations range from greater than  $30^{\circ}\text{C}$  in summer to below  $-30^{\circ}\text{C}$  in winter. Precipitation is in the form of rain and snow and averages approximately 830 mm annually (expressed in mm of water).

Local lakes start to freeze over approximately mid-November, with spring breakup taking place in early to mid-May. Snowfall has historically been recorded between September and June but the area is typically snow-free between May and October.

Climate has little impact on the ability to do work on the Project so that exploration and future production can be conducted year-round.

### **LOCAL RESOURCES**

The local economy of Timmins is dominated by the mining and logging industries. Timmins is one of Canada's largest municipalities with an area of 321,000 ha. The Abitibi region has a long history of mining activity, and an experienced mining labour pool is accessible in the

Timmins area. Mining supplies and contractors are locally obtainable and general labour is readily available. The 2006 census indicates the population of Timmins to be 42,455 persons. The Project enjoys the support of local communities.

The Victor M. Power Airport has scheduled service provided by four carriers, Air Canada Jazz, Bearskin Airlines, Air Creebec, and Porter Airlines. The Timmins District Hospital is a major referral health care centre for northeastern Ontario.

All-weather road access and electrical power transmission lines are established and operational in the vicinity of the Properties.

## **INFRASTRUCTURE**

A 500 kV power line and transformer station run with two kilometres of the main cluster. Numerous operational gold processing facilities, as well as facilities on care and maintenance, are located in the Timmins area. The closest to the main cluster is the Dome Mine/Mill Complex owned and operated by Goldcorp. This complex is located approximately two kilometres northeast of the Paymaster pit for the Project, and has a rated capacity between 12,000 tpd and 14,000 tpd dependent on rock hardness.

## **PHYSIOGRAPHY**

The area in the vicinity of the Timmins Properties is typical of glacial regions with low to moderate topographic relief and numerous rivers and lakes. Elevations range from approximately 250 MASL to 300 MASL. Drainages are characterized by creeks and rivers which comprise part of the Arctic watershed. Bedrock outcrop exposure is limited on the properties.

The Timmins area supports boreal forest tree species and an active timber, pulp, and paper industry. Local tree species include: American Mountain-Ash, Balsam Fir, Black Spruce, Eastern White Cedar, Eastern White Pine, Jack Pine, Pin Cherry, Red, Tamarack, Trembling Aspen, White Birch, White Spruce, and Speckled Alder.

## **6 HISTORY**

This section was derived from P&E and RPA Inc. (2013) except where noted.

Prospecting began in the Porcupine area in 1907 and the three mines (Dome, McIntyre, and Hollinger) were discovered in 1909. The subsequent gold rush resulted in the founding of the City in 1912. The PGC has produced more gold than any other district in North America.

### **BUFFALO ANKERITE**

#### **PRIOR OWNERSHIP, EXPLORATION AND DEVELOPMENT HISTORY**

Prior ownership and work done on the ground currently covered by Buffalo Ankerite is outlined in Tables 6-1 and 6-2.

The Buffalo Ankerite was, prior to 1935, developed by two independent owners. The operations were distinct and covered two different mineralized bodies, the South Zone (Buffalo Ankerite South) and the North Zone (Buffalo Ankerite North). In 1935, the operator of Buffalo Ankerite North, Buffalo Ankerite Gold Mines Limited (BAGM) consolidated both properties under its ownership. The reporting of historical work is divided into these two properties prior to 1935.

**TABLE 6-1 HISTORICAL WORK ON THE BUFFALO ANKERITE NORTH PROPERTY**

**Lexam VG Gold Inc. – Buffalo Ankerite Property**

| <b>Years</b> | <b>Activity</b>  |
|--------------|--|
| Pre-1916     | Dobie Mines Ltd. sunk shafts to depths of 50 ft and 120 ft   |
| 1916 to 1921 | <p>Surface exploration, shafts to 350 feet, 130 feet and 3 shafts to 50 feet; work by Coniagas Mines Ltd. under an option from the owners, Ankerite Mining Company Ltd. (Ankerite)</p> <p>Mine workings re-sampled by United States Refining and Smelting Co. under an option from the owners, North American Gold Corporation.</p> <p>Under an option agreement, underground development resumed by Porcupine Goldfields Development and Finance Co. Ltd. Lateral work on 200-ft and 300-ft levels, 3,438 ft; surface drilling 17 holes, 7,739 ft and underground drilling 21 holes, 4,630 ft</p> |
| 1925 to 1929 | <p>Ankerite operated the mine and a mill of 250 tpd. Total development on the property: shafts 1,302 ft; lateral work 12,696 ft</p> <p>Lateral work 1,254 ft; drilling 2,421 ft and mill operated by Ankerite Gold Mines Syndicate</p>   |
| 1932 to 1935 | Development, mining and milling continued by BAGM.   |
| 1935         | The adjoining March (Marbuan) Mine was taken over and the two mines run as one operation by BAGM. Mining included Ankerite No. 1 shaft 367 ft, Ankerite No. 2 shaft 1,200 ft; Ankerite No. 5 (main) shaft 3,996 ft; No. 8 (Imperial) shaft 109 ft; 27 levels with the deepest at 3,750 ft, drifting approximately 63,000 ft, crosscutting approximately 47,000 ft, mill capacity 400 tpd   |
| 1953         | The Buffalo Ankerite mine closed.  |



**TABLE 6-2 HISTORICAL WORK ON BUFFALO ANKERITE SOUTH  
PROPERTY**

**Lexam VG Gold Inc. – Buffalo Ankerite Property**

| <b>Years</b> | <b>Claim</b>     | <b>Activity</b>   |
|--------------|------------------|---|
| Pre-1916     | HR833<br>(P8276) | Two 50-ft shafts sunk by Maidens Macdonald  |
| 1916 to 1917 | HR833<br>(P8276) | Vertical shaft deepened to 107 ft and shaft inclined to 65°, deepened to 100 ft by LaRose Mines Limited under option from Coniagas Mines Ltd.   |
| 1921 to 1925 | HR823<br>(P7955) | March Gold Mines Ltd. (March Gold) sunk the March No. 1 shaft to 800 ft with levels at 100 ft and 321 ft, surface drilling 2 holes 2,260 ft   |
| 1917 to 1926 | HR833<br>(P8276) | March Gold deepened March No.2 inclined shaft to 190 ft, and deepened March No.3 shaft to 330 ft, another shaft was deepened to 115 ft by Porcupine Gold Fields Development   |
| 1926 to 1932 |                  | March Gold erected and operated a 150 tpd mil, March No. 3 shaft deepened to 425 ft, South Winze (No. 4) deepened from 425 ft to 675 ft, developed 170-ft, 200-ft, 300-ft, 425-ft, 550-ft, and 675-ft levels  |
| 1933 to 1934 |                  | Marbuan Gold Mines Ltd. took over holdings of March Gold and deepened South Winze to 1,050 ft, developed levels at 800-ft, 925-ft, and 1,050-ft   |
| 1935 to 1953 |                  | Property consolidated with BAGM. Extended No. 6 Winze from 1,050 ft to 2,020 ft with development at 1,250-ft, 1,400-ft, 1,550-ft, 1,700-ft, 1,850-ft, and 2,000 ft levels. The No. 5 shaft served as production shaft for both deposits and was connected by haulage drives on the 1,050-ft and 2,000-ft levels |

#### **DIAMOND DRILLING**

In 2002, the Placer Dome/Porcupine Joint Venture (PJV), a joint venture between Placer Gold Inc. (Placer Gold) and Kinross Gold Corporation, optioned the Buffalo Ankerite and Fuller properties from Vedron Gold Corp. (Vedron), a predecessor company to Lexam. Exploration by Placer Dome consisted of diamond drilling at Buffalo Ankerite North, which comprised 15 holes for a total of 8,950 ft, and at Buffalo Ankerite South, which consisted of 59 holes for a total of approximately 20,000 ft drilled in two phases.

Drill hole collar locations were spotted on a local grid by measurements from nearest grid markers. After completion of drilling, the collars were surveyed using a differential global positioning system (GPS) instrument for accurate locations.

Some drill holes broke through into historically mined (stopes/drifts) areas. Where possible, drill rods were pushed through these voids, and drilling continued.

Core logging was done directly into Placer Dome's RDBMS Sample Management System/Laboratory Information Management System (SMS/LIMS). Drill hole information was then merged with the main data set in the master Access database. Drill hole data was then accessed in Vulcan through an open database connectivity (ODBC) link.

## **HISTORICAL RESOURCE ESTIMATES**

A resource estimate was carried out by Placer Dome on Buffalo Ankerite South in July 2002 by R. Calhoun. Tonnages appear to have been derived by polygonal methods and the contained grade (0.095 opt Au) appears to be an average grade across the mineralized domain. Up to 120,000 oz Au was estimated within the mineralized zone. RPA notes that this estimate is considered to be historical in nature and should not be relied upon, however, it does give an indication of mineralization on the property.

A resource model was developed for the Buffalo Ankerite South by the Resource Evaluation Group of the PJV using a block model. The block model was rotated 65° to align with the principal lithological and mineralization boundaries. A first-pass attempt was made at modelling and, in August 2002, the PJV revisited the project. It was concluded that insufficient drilling data was available for generating a resource model so a composite average grade based on the modelled mineralized domains was calculated. The results yielded 1.4 million tons at a grade of 0.07 opt Au for approximately 98,000 oz gold contained to a depth of approximately 500 ft below surface. Underground excavation tonnages were crudely calculated and one million tons of material was subtracted from the results. Despite the above issues, Placer Dome proceeded with the geostatistical estimate using Ordinary Kriging.

The Placer Dome estimate is shown in Table 6-3. RPA notes that this estimate is quoted for historical purposes only and should not be relied upon. This historical estimate is superseded by the current Mineral Resource estimate for Buffalo Ankerite South reported in Section 14 of this report.



**TABLE 6-3 PLACER DOME ESTIMATE OF RESOURCES AT  
BUFFALO ANKERITE SOUTH - 2002**  
Lexam VG Gold Inc. – Buffalo Ankerite Property

| Cut-off Grade<br>(opt Au) | Category  | Tons    | Grade<br>(opt Au) | Contained Gold<br>(oz) |
|---------------------------|-----------|---------|-------------------|------------------------|
| 0.025                     |           |         |                   |                        |
|                           | Measured  | 855,035 | 0.080             | 68,830                 |
|                           | Indicated | 190,346 | 0.075             | 14,276                 |
|                           | Inferred  | 80,334  | 0.058             | 4,659                  |
| 0.050                     |           |         |                   |                        |
|                           | Measured  | 517,673 | 0.109             | 56,426                 |
|                           | Indicated | 97,522  | 0.112             | 10,971                 |
|                           | Inferred  | 33,307  | 0.088             | 2,931                  |

## PAST PRODUCTION

The life-of-mine (LoM) production from the Buffalo Ankerite was approximately five million tons of ore at a recovered grade of 0.193 oz Au/st, by underground stoping methods, yielding 983,885 oz of gold. From 1936 to 1953, production from Buffalo Ankerite South was included in the total.

The production from the Buffalo Ankerite South was included in the overall production statistics after 1935. Between 1925 and 1935, 317,769 tons of ore was milled producing 61,039 oz of gold and 5,400 tons of silver. The total production from Buffalo Ankerite South was believed to be approximately 500,000 tons which yielded approximately 100,000 oz of gold. RPA notes that an open pit, owned by Pamour Porcupine Mines Ltd. (Pamour), mined a portion of the Buffalo Ankerite South crown pillars. Production data was not found but a three-dimensional (3D) model constructed by Dome Mines suggested that approximately 350,000 tons of material was removed.

## FULLER

### PRIOR OWNERSHIP, EXPLORATION, AND DEVELOPMENT HISTORY

#### *PRE-1983*

Periodic surface exploration has been done on Fuller since 1910 and limited production from the Fuller Claim (P13189) has occurred. A 228 ft inclined shaft (the Edwards Shaft) was

sunk after 1924. From 1940 to 1941, Nakhodas Mining Company Limited (Nakhodas) drove 2,100 ft of lateral development on the 160 ft level and mined above this level.

Nakhodas drilled 41 surface holes for an aggregate length of 10,919 ft and an additional 83 underground drill holes (combined length unknown).

In the late 1930s, Hollinger Consolidated Gold Mines (Hollinger) drilled approximately 14,000 ft in 25 holes on the Tisdale Township claims (Tisdale Ankerite claims). Pamour also drilled from 1974 to 1976 and discovered three well-mineralized zones at depth (approximately 500 ft below surface) when a single hole deviated onto the (then) single Vedron claim. This encouraged Vedron to drill below the 160 ft level.

#### **1983 TO 2001**

In 1983, Vedron diamond drilled more than 4,000 ft in 15 holes to test mineralization below the Fuller workings.

An agreement was struck between Belmoral Mines Ltd. (Belmoral) and Vedron which resulted in Belmoral conducting work from 1986 to 1989. Belmoral drove 4,611 ft of ramp-decline and established five levels to 650 ft below surface (150 ft, 275 ft, 375 ft, 500 ft, and 650 ft levels). On these levels, 5,362 ft of drifts and 3,505 ft of crosscuts and raises were excavated. Other work done by Belmoral included data review, metallurgical testing, and diamond drilling (totalling approximately 108,000 ft) from surface and underground including the probing of an induced polarization (IP) survey anomaly located in the northern part of the property. Mineral resources were estimated and a mining plan was proposed on behalf of Vedron.

No further work was done from 1989 to 1996 when Vedron started drilling to explore the down-dip extension of the known mineralized body below the 650 ft level of the Fuller mine to the depth of the upper Buffalo Ankerite workings (1,550 ft level). Vedron completed 105,047 ft of drilling in 63 holes by September 1997 and intersected numerous sub-parallel mineralized zones along a strike length of approximately 2,400 ft to below a depth of the 1,550 ft level. A second phase of drilling was done from 1997 to 1998 in an effort to outline resources between the 1,500 ft and 2,550 ft levels but the results from this program were not included in a later resource estimate.

In 1996 and 1997, a mechanical trenching program was completed to expose mineralization at surface for the first time. Limited trenching was also carried out north of the Fuller deposit. Other field work included IP and magnetic geophysical surveys conducted by Exsics Exploration Limited over the ground between the north shaft of the Buffalo Ankerite property and the northern part of Fuller.

Vedron also started digitizing historical and recent exploration data including all available level plans and drill hole data prior to campaigns conducted from 1996 to 1998. This work was stopped when Fuller was optioned to Placer Dome in 2001.

## **2002**

Placer Dome carried out both field exploration and office database management activities on Fuller in early 2002 after the option agreement was signed with Vedron. Placer Dome re-coded all the surface and underground drill holes to Placer Dome's mine terminology and coordinate systems. A reinterpretation of the Fuller Dobie deposit consisting of remodelling of the lithology and gold mineralization was then carried out by Placer Dome in April and May 2002 and a final 3D lithology and mineralization domain model was constructed using percent quartz veining and percent pyrite mineralization. Modelling was based primarily on the underground level plans, utilizing the historical data, at an approximate 100 ft (30 m), vertical elevation spacing.

Placer Dome conducted a four-hole (6,727 ft) diamond drill program on the North Vedron zone from January to February 2002 in an effort to identify gold mineralization along the highly prospective Central and Vipond Series contact on Fuller. Another drilling program, on the Paymaster 31 Zone extension, was completed from April to May 2002 and comprised five holes with an aggregate length of 6,669 ft. The latter program was designed to follow up an early drill hole which intersected gold mineralization with a trend of porphyry and to explore the western strike projection of the 31 Vein structure.

## **HISTORICAL RESOURCE ESTIMATES**

A mineral resource for Fuller was produced in 1997 (the Bevin resource), which, as mentioned earlier in this section, did not include 1997 drilling by Vedron. Using a cut-off of 0.075 opt Au and no top-cuts applied to the assay data, a resource of 2.21 million tons grading 0.260 opt Au was estimated for an equivalent of 574,016 contained ounces of gold.

When a top-cut of one ounce per ton gold was applied, the resource was estimated to be 2.21 million tons grading 0.206 opt Au for an equivalent of 453,599 contained ounces of gold. RPA notes that these unclassified resources pre-date NI 43-101 regulations, should not be relied upon, and are quoted for historical purposes only.

## **PAST PRODUCTION**

In 1940 and 1941, Nakhodas mined 44,028 tons grading 0.149 opt Au (recovered) above the 160 ft level in four stopes. The ore was processed in the Faymar mill in Deloro Township until the mill was destroyed by fire in 1942.

## **PAYMASTER**

### **PRIOR OWNERSHIP, EXPLORATION, AND DEVELOPMENT HISTORY**

Subsequent to the discovery of the Dome Mine on the adjacent property in 1909, extensive work was done on the Paymaster Property which resulted in the discovery of gold in 1910 on claim HR 908. Three shafts were sunk and mining was done with workings extending down to the 800 ft level on six levels as shown in Table 6-4. Several north-dipping, east-plunging, porphyries occur on the property which contain gold-bearing quartz veins and disseminated pyrite. Considerable lateral work was done in these porphyritic bodies.

From 1924 to 1925, United Mineral Lands sank a 253 ft shaft and carried out development on the 116 ft and 232 ft levels in the Paymaster No. 4 Shaft area. No records of stope development or underground sampling are available. Gold values were reported to occur in a fuchsite-carbonate zone with several small porphyries intruding the zone. Selected historical drill results include 0.27 opt Au over 11.5 ft, 0.37 opt Au over three feet, and 0.26 opt Au over six feet. Results from underground sampling of drift zones include 80 ft by five feet of 0.217 opt Au, 35 ft by five feet of 0.06 opt Au, and 60 ft by five feet of 0.145 opt Au. Results from surface sampling of the zones include 70 ft by ten feet of 0.254 opt Au and 24 ft by 2.1 ft of 0.300 opt Au.

The present day Paymaster was formed by the amalgamation of several claim groups in 1930 by Paymaster Consolidated Mines Ltd.

**TABLE 6-4 HISTORICAL WORK ON THE FULLER PROPERTY**  
**Lexam VG Gold Inc. – Paymaster Property**

| <b>Years</b> | <b>Activity</b>   |
|--------------|---|
| 1910         | Claims TRS776 (HR908), TRS975 (ME15), shaft 83 ft, 40 ft of crosscutting by Standard Gold Mines Ltd.  |
| 1910 to 1911 | No. 1 shaft 123 ft, No. 2 shaft 28 ft, No. 3 shaft 114 ft, No. 4 shaft 76 ft, 204 ft of drifting on 105 ft level; No. 1 shaft by West Dome Mines Ltd.   |
| 1915 to 1928 | No. 1 (Paymaster No. 6) shaft 1,350 ft, No. 2 shaft 30 ft, No. 3 shaft 595 ft, No. 4 shaft 113 ft. At No. 1 shaft levels at 120 ft, 180 ft, 300 ft, 400 ft, 500 ft, 600 ft, 750 ft, 900 ft, 1,050 ft, 1,200 ft, 1,325 ft and 18,866 ft of drifting and 7,365 ft of crosscutting, mill operational |
| 1915 to 1930 | Work by Consolidated West Dome Mines Ltd. and West Dome Lake Gold Mines Ltd.  |
| 1930 to 1966 | No. 5 (Main) shaft 4,462 ft, No. 2 winze 2,046 ft to 4,202 ft, No. 6 winze 4,059 ft to 6,157 ft, 9 shafts, 6 winzes, 197,294 ft of drifting, 82,577 ft of crosscutting, mill treated 365 tons per day; work by Paymaster Consolidated Mines Ltd. and Porcupine Paymaster Ltd.                     |

Placer Dome acquired the property in 1989 and conducted surface mapping, a lithogeochemical survey, a magnetic survey, power stripping, and channel sampling. The best values from channel sampling were obtained from a trench at the Preston claim boundary of No. 4 shaft area which returned 0.076 opt Au over 20.5 ft (including 0.442 opt Au over 2.6 ft and 0.129 opt Au over 2.2 ft).

In 1995, Placer Dome drilled 47 holes to outline a near surface resource in the Paymaster No. 2 and No. 3 shaft area. In 1996, 28 additional holes were drilled along the mafic-ultramafic contact south of the No. 2 and No. 3 shaft area.

Placer Dome conducted a two phase diamond drill program totalling 13,236 ft in 17 holes from 1999 to 2000 in the No. 4 shaft area. The 1999 fall drill program was designed as an exploration phase to test the carbonate rock-highly altered rock (CR-HAR) lithologies and coincident resistivity high geophysical feature on approximately 400 ft centres. The 2000 winter drill program was designed to follow up on a significant gold intercept, to test northeast and southwest strike extents of the CR-HAR package and coincident resistivity high geophysical feature, and to examine a number of magnetic low features interpreted to represent potential structural-alteration zones.

## HISTORICAL RESOURCE ESTIMATES

Historical resource estimates were prepared by Placer Gold for the Paymaster No. 2 and No. 3 shaft area (West Porphyry) in 1994 and 1996 and are shown in Table 6-5. The resource estimates were carried out by both polygonal (sections and plans) and block modelling techniques using the inverse distance (ID) method. An anisotropic search ellipse with axes of 15.2 m (x-axis) by 4.6 m (y-axis) by 18.3 m (z-axis) was used for the ID estimation. The search ellipse orientation and dimensions approximated the major orientation of the gold mineralized zones in the Main Porphyry.

The cut-off value used for both methods was 0.96 g/t Au (0.028 opt Au) with a density of 2.79 (tonnage factor of 11.5, or 0.087 st/ft<sup>3</sup>) based on experience at the Dome Mine.

**TABLE 6-5 HISTORICAL RESOURCE ESTIMATES ON PAYMASTER NO. 2 AND NO. 3 SHAFT AREA**  
Lexam VG Gold Inc. – Paymaster Property

| Year | Method    | Tonnes    | Grade (g/t Au) | Contained Gold (g) | Contained Gold (oz) |
|------|-----------|-----------|----------------|--------------------|---------------------|
| 1994 | Polygonal | 957,327   | 2.34           | 2,240,145          | 72,023              |
| 1996 | ID        | 1,053,916 | 2.50           | 2,634,790          | 84,715              |

RPA notes that a polygonal estimation usually produces a lower overall tonnage at higher grade than a block model. RPA notes that this estimate pre-dates NI 43-101, cannot be relied upon, and is quoted for historical purposes only. The historical polygonal estimate does, however, give an indication of mineralization on the property.

## PAST PRODUCTION

Between 1915 and 1966, historical mining by various former owners totalled 5.61 million tons at an overall grade of 0.211 opt Au for a total gold production of 1,192,206 ounces.

## DAVIDSON TISDALE

### PRIOR OWNERSHIP, EXPLORATION, AND DEVELOPMENT HISTORY

The property was incorporated as Davidson Gold Mines Limited in 1911 and was succeeded in 1919 by Davidson Consolidated Gold Mines Limited (DCGM). In 1921, Porcupine Davidson Mines Limited was formed as a 50/50 joint venture with British interests. A legal

dispute between the joint venture partners resulted in the suspension of work until 1925 when the control of the property reverted to DCGM. The property was subsequently sold to the Mining Contracting and Supply Company Ventures Limited (Mining Contracting and Supply), a predecessor company to Falconbridge Ltd. Mining Contracting and Supply sold the rights to Davidson Tisdale Mines Limited (DTM) in 1945. Through various joint ventures DTM has retained ownership rights.

#### **1911 TO 1924**

From 1911 to 1924, exploration included 4,070 m of surface diamond drilling and underground development by way of a small two-compartment exploration shaft (Main Shaft) sunk to a depth of 95 m. Workings were established at the 30 m, 60 m, and 90 m levels with a total of approximately 700 m of lateral development. An internal winze was sunk an additional 67 m from the 90 m level and three additional mining levels were developed. A limited amount of underground drilling was also completed.

Electricity was established on-site in 1918 and powered a ten-stamp mill operating at 30 tons per day. The mill was lost to a fire in 1924, however, 8,501 t of ore grading 8.9 g/t Au were reported processed. Mercury amalgamation was used to recover 2,348 oz of gold but historical reports indicate that up to 20% of the gold was lost in the processing.

From 1923 to 1924, the three-compartment inclined Horseshoe Shaft was sunk 180 m west of the Main Shaft. The shaft dipped 72° to the northwest and was intended to be driven to a vertical depth of 300 m but the withdrawal of support by the British financial backers caused the development to be terminated at 247 m. Stations were established at 60 m, 120 m, and 167 m along the incline.

#### **1933 TO 1945**

From 1933 to 1945, Mining Contracting and Supply drilled 1,557 m in 11 holes into and below the historical workings in an effort to locate the vein extensions and to verify high-grade intersections encountered in previous drill programs. The results did not meet expectations and the property was returned to DTM.

Little work was done from 1945 to the early 1980s and mine dewatering was eventually suspended. Subsequently, some reports were produced which concluded that property had potential.



**1981 TO 1983**

In 1981, Dome Mines drilled 1,118 m in ten holes with one deep hole in the vicinity of the old workings. Dome drilled an eleventh hole (length unknown) to test for mineralization along strike and down dip.

In 1983, a new group assumed control of DTM. A thorough data completion was done and extensive surface and underground exploration was started. New exploration grids were established and magnetic, very-low-frequency electromagnetic (VLF-EM), Max-Min horizontal loop electromagnetic (HLEM), and pulse electromagnetic surveys were conducted. The following programs were also completed:

- Extensive stripping in the Main Shaft area uncovered numerous occurrences of visible gold over an area greater than 600 ft long. Smith Vet & South Shaft areas were stripped but not mapped, while trenching and stripping at Cal's Dome showed high gold values in quartz veins in sediments which could be traced across the property based on VLF-EM survey results
- Stripping uncovered visible gold in quartz veins at the intersection of northwest- and northeast-trending quartz vein systems (the T-Zone) which are underlain by highly carbonated volcanics containing visible gold.
- Extensive percussion drill sampling in the Main Shaft and T-Zone areas was completed to test for shallow mineralization potential which could be exploited using bulk mining methods
- Twenty-three surface diamond drill holes were completed comprising 2,125 m in the Main Shaft area
- Dewatering and rehabilitation of underground workings was carried out followed by extensive sampling, assaying, and geological mapping. No underground drilling was completed.

The 1983 program demonstrated that the major vein system in the Main Shaft area strikes at 030° and dips 45° to the northwest. This information was a departure from the previously accepted orientation which had guided historical exploration programs.

**1984 TO 1987**

In early 1984, with DTM in control, 2,080 m were drilled in 11 holes in the vicinity of the Main Shaft area. This work was accompanied by underground mapping and sampling. On March 1, 1984, Getty Canadian Metals Limited (Getty) became operator and completed three exploration programs, in 1984, 1985, and 1986/1987.



### **1984 Exploration Program**

The 1984 exploration program included drilling and sampling in two zones, Main Shaft and Smith Vet-T.

#### **Main Shaft Zone**

- The Main Shaft zone was drill tested on 50 m centres to a depth of 250 m between the Main Shaft and S-Zone (approximately 450 m of strike length).
- Where results warranted extra drilling, holes were completed on 25 m centres.
- Two gold-bearing en echelon vein systems striking 030° and dipping 30° to 45° to the northwest were identified.
- Visible gold was seen in 45% of the holes drilled and 45% of the holes had values of 1.7 g/t Au or greater over the full width of the vein system.

#### **Smith Vet-T Zone**

- The exploration corridor for this zone was expanded 400 m to the west and to vertical depths between 50 m and 200 m.
- At least two parallel vein systems were identified, with the main gold bearing structure, the S-Zone, striking 090° and dipping to the north at 25°.
- Limited in-fill drilling on 25 m centres was completed.
- Visible gold was seen in 36% of the holes drilled in the S-Zone vein system and 25% of the holes had values of 1.7 g/t Au or greater over the full width of the vein.

These data were used to estimate an in-house resource for the Main Shaft Zone and South Zone. Getty also identified the potential to increase resources through further exploration and the open pit potential of the S-Zone.

### **1985 Exploration Program**

In 1985, Getty conducted exploration in two phases.

The Phase One program was developed to evaluate the potential for near-surface bulk minable resources in the S-Zone part of the Smith Vet-T Zone area. This phase included ten diamond drill holes for a total length of 835 m. The lack of significant assay results, however, caused Phase One to be prematurely terminated so effort could be focussed on Phase Two.

During the Phase Two program, a mining bulk sample was extracted between Level 4 and Level 5 to validate the resources estimated subsequent to the 1984 campaign. Four surface and eight underground pilot core holes were drilled for an aggregate length of 761 m. Other components of this phase included site preparation, headframe installation, and underground rehabilitation. Ninety-seven metres of crosscut development and 53 m of raises were completed and a 2,885 t bulk sample was obtained. Systematic chip and muck sampling resulted in approximately 4,000 samples sent for analyses. A comparison of drill hole assays to these other sampling methods was done.

The principal conclusions resulting from this program were:

- The quartz vein systems are very complex, irregular, and erratically mineralized rather than being a simple sheet-type system.
- A comparison of assays from drill core with those from various underground sampling methods suggests that whole core rather than split core should be submitted for assay.
- Applying top cuts to assays greater than 34.28 g/t Au in drill core is indicated.
- Muck, panel, and channel samples correlate very well with sample tower results, suggesting that these be used for grade estimation.

### **1986 and 1987 Program**

A bulk sample was taken to test the Lower Vein system as a component of Phase One of this program. In total, 7,270 t of material was extracted of which 1,750 t was classified as waste. The “ore-grade” material was primarily extracted from Level 4 (75%) but mineralization was also recovered from Level 3 and Level 5. The excavations were geologically mapped, panel and muck sampled, and 1,337 m were drilled in 55 short holes.

Once mining of the bulk sample commenced, it was apparent that high-grade areas were visually identifiable so the extraction was placed under geological control. Material was divided into stockpiles of different grades as determined using ship samples from underground on one-metre squares and using surface grab samples. The assay results are shown in Table 6-6. RPA notes that the underground panel sampling completed after excavation indicated a grade of 7.31 g/t Au for the bulk sample area which corresponded with Pile No. 1 (Guy and Puritch, 2007).

**TABLE 6-6 STOCKPILE ASSAYS**  
**Lexam VG Gold Inc. – Davidson Tisdale Property**

| Pile No.     | Tonnes         | Grade (g/t Au) |             | Gram X Tonnes |               |
|--------------|----------------|----------------|-------------|---------------|---------------|
|              |                | Uncut          | Cut         | Uncut         | Cut           |
| 1            | 3,313.4        | 17.63          | 8.58        | 58,408        | 28,426        |
| 2            | 740.0          | 4.60           | 4.60        | 3,404         | 3,404         |
| 3            | 1,200.0        | 2.09           | 2.09        | 2,508         | 2,508         |
| <b>Total</b> | <b>5,253.4</b> | <b>12.24</b>   | <b>6.54</b> | <b>64,320</b> | <b>34,338</b> |

During Phase Two of this program, the main ramp was driven 17 m below Level 5 for a total distance of 1,081 m and the west ramp was driven 506 m into the S-Zone. A total of approximately 6,000 m of diamond drilling was carried out and detailed channel sampling was completed on Level 5 which identified two high-grade areas of mineralization (Guy and Puritch, 2007).

## HISTORICAL RESOURCE ESTIMATES

Getty produced a mineral resource estimate based on its 1984 exploration program on the Main Shaft and South zones. A “drill indicated” tonnage of 747,600 t with an average uncut and in-situ grade of 12.39 g/t Au over a true width of three metres to a depth of approximately 200 m below surface was estimated. RPA notes that this estimate pre-dates NI 43-101, cannot be relied upon, and is quoted for historical purposes only.

## PAST PRODUCTION

In 1918, electricity was brought in to the site and a 10-stamp mill operated at 30 stpd till it burned down in 1924. A reported total of 8,501 t at 8.9 g/t Au was milled and 2,438 oz gold recovered using mercury amalgamation. It is noted that about 20% of the gold content was lost using this process.

From April to November of 1988, custom milling of the Davidson Tisdale ore occurred at the Go-Mill. A total of 43,850 st was processed for a metal recovery of 7,302 oz gold and 5,665 oz silver. This gave a recovered grade of 0.16 opt Au (5.48 g/t) and 0.13 opt Ag (4.16 g/t). The average milling rate was 212 stpd and it is estimated that problems that arose caused the plant to operate at less than 50% efficiency during the test period. Other problems arose and it was concluded that the test milling was not a success.

## 7 GEOLOGICAL SETTING AND MINERALIZATION

This section was derived from P&E and RPA (2013)

### REGIONAL GEOLOGY

The Timmins Properties are situated in the southwestern part of the Abitibi Greenstone Belt within the Archean Superior Province. The geology of the Timmins Gold Camp (TGC) comprises a thick sequence of Archean volcanic and sedimentary rocks that have been intruded by synvolcanic and post tectonic felsic dykes. The volcanic-sedimentary rock sequence has been subdivided into three main groups, the Deloro, Tisdale, and Porcupine groups.

The lowermost Deloro Group comprises mafic to ultramafic flows overlain by a series of pyroclastic rocks with a well-developed regional iron formation near the top. No significant gold production is associated with the Deloro Group in the TGC.

The overlying Tisdale Group comprises ultramafic volcanic flows in the lowermost formation overlain by a sequence of high-iron basaltic flows containing a number of carbonatized sedimentary units. The top of the Tisdale Group is composed of felsic pyroclastic rocks. This package of rocks hosts the majority of gold production in the TGC.

The Tisdale Group has been subdivided by Brisbin (1998) into four formations, which from youngest to oldest are the Hershy Lake, Central, Vipond, and Gold Centre formations. The South Tisdale Anticline (STA) area is underlain predominantly by volcanic rocks of the Tisdale Group.

The youngest rocks in the TGC are the clastic sedimentary rocks of the Porcupine Group. In addition to overlying the volcanic rocks, these sedimentary rocks may be laterally equivalent to the volcanic rocks and distal to the major centres of volcanism.

A number of quartz-feldspar porphyry intrusion rocks have been emplaced into the supracrustal rocks. In the southwest sector of the TGC, gold deposits and occurrences are often spatially associated with porphyry intrusions. Examples include the Pearl Lake Porphyry at the Hollinger-McIntyre deposit, Preston Porphyry at the Dome-Preston deposit, the 2 & 3 Shaft porphyries, the West Porphyry, and the Edwards Porphyry at the Fuller/Dobie deposit.

The TGC exhibits a complex structural pattern with at least three major periods of deformation being recognized. This tectonic activity has resulted in a series of doubly plunging, upright, isoclinal folds which are offset by major fault structures and related secondary faults.

The Porcupine-Destor fault is a major structural zone which can probably be traced for a total distance of 440 km. It is at least 150 m wide, shows evidence of left-lateral displacement, and is offset by younger, brittle faults. On the north side of the fault zone, there have been at least two periods of folding, consisting of a north trending series of folds and folds with an east-northeast axis such as the Porcupine syncline. Hattori and Hodgson (1991) have interpreted five periods of deformation; the Porcupine-Destor fault zone and the Porcupine syncline are thought to be relatively old.

The Porcupine syncline separates the camp into a north limb and a south limb. The south limb of the syncline includes three Lexam properties, Buffalo Ankerite, Paymaster, and Fuller. The north limb includes the Davidson Tisdale property. The key structures in the area include:

- the northeast-southwest trending regional Destor-Porcupine Fault Zone that lies immediately south of the Project area;
- the northwest trending South Tisdale antiformal structure that is defined by the folded mafic-ultramafic contact in the vicinity of the Edwards Porphyry, and
- the mafic-ultramafic contact, also referred to as the Paymaster Shear (Spracklin, 2001).

Spracklin (2001) has traced the Paymaster Shear from the Aunor-Delnite area in the west to the Burrows-Benedict Fault in the east, which offsets the shear. Most of the gold mineralization in the southwestern part of the Timmins area, apart from the Hollinger-

McIntyre deposit, occurs at or near the mafic-ultramafic contact or Paymaster Shear. Examples include the Dome-Preston deposit, Paymaster 36 Zone, Fuller/Dobie deposit, the Buffalo Ankerite North and South Mines, Aunor Mine, and the Delnite Mine.

The bulk of the gold production in the Porcupine district in the Timmins area has been from well-known deposits in Tisdale Township north of the Porcupine-Destor fault zone. These include the producing Dome Mine (more than 13 million oz gold) and the past-producing Hollinger (19.4 million oz gold), McIntyre (10.4 million oz gold), Coniaurum (1.1 million oz gold), Paymaster (1.2 million oz gold) and Preston East Dome mines (1.5 million oz gold). In the northern part of Deloro Township are the past-producing Buffalo Ankerite, Aunor (2.1 million oz gold) and Delnite (0.9 million oz gold) mines, as well as one of the Paymaster shafts on the Placer Dome property. Most of the production has been from deposits which occur within or immediately adjacent to the Tisdale group. The average historical underground recovered grade of the Timmins area deposits has been approximately 0.25 opt Au (8.5 g/t Au). The Dome Mine has completed production from an open pit (the "superpit") and is presently producing from underground operations at a grade of approximately 0.13 opt Au (4.5) g/t Au.

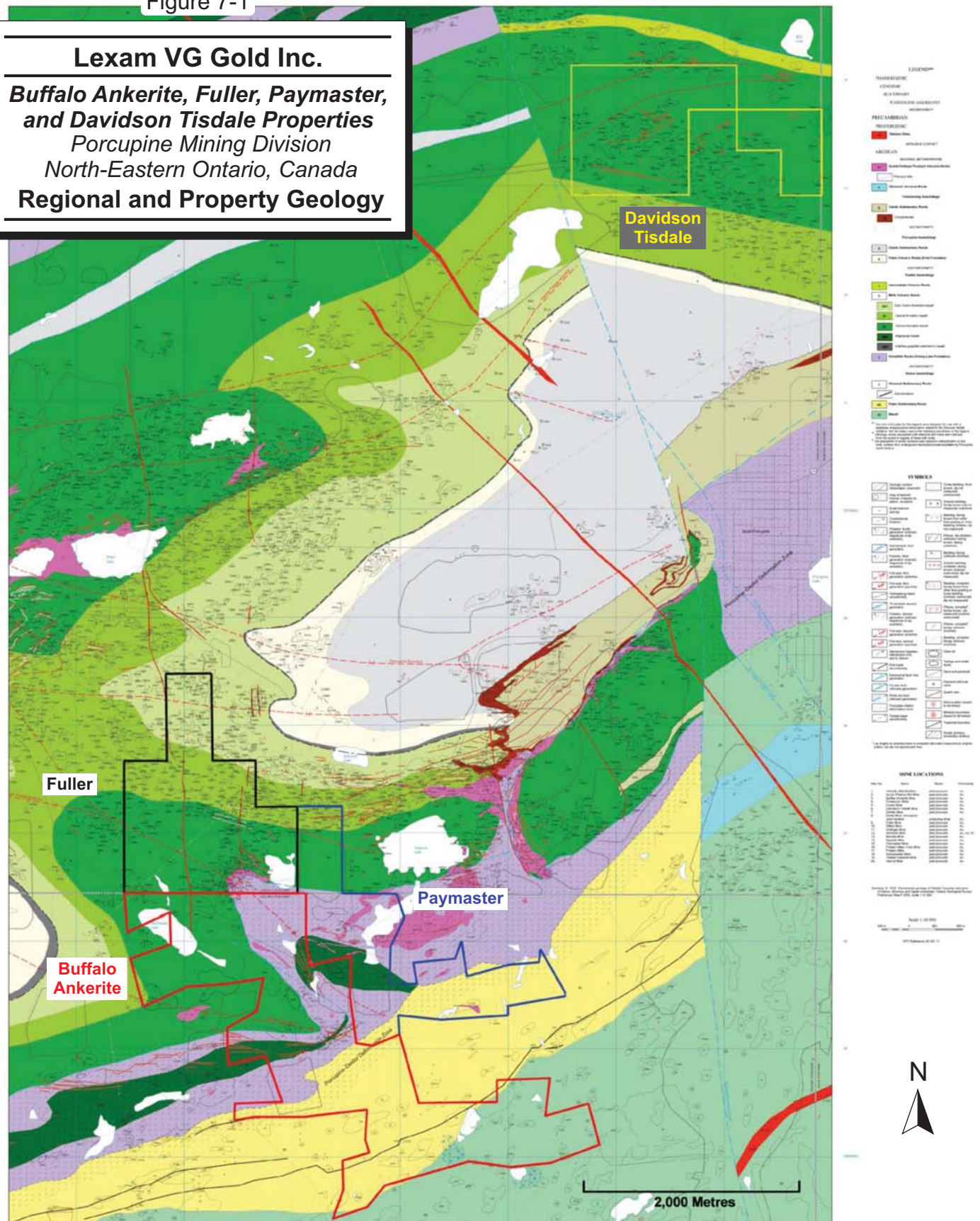
Figure 7-1 shows regional and property geology at the Project.



Figure 7-1

**Lexam VG Gold Inc.**

**Buffalo Ankerite, Fuller, Paymaster,  
and Davidson Tisdale Properties**  
Porcupine Mining Division  
North-Eastern Ontario, Canada  
**Regional and Property Geology**



## PROPERTY GEOLOGY

This section was derived from P&E and RPA Inc. (2013) unless otherwise indicated.

The contiguous Buffalo Ankerite, Paymaster, and Fuller properties lie within the STA and are underlain by a sequence of un-subdivided ultramafic and mafic flows of the Hershey Lake Formation and locally subdivided mafic flows (flows C7-C17 as per Longley, 1959) of the Central Formation (Figure 7-1). The contact between these two formations, for the purpose of this Report, is called the north mafic-ultramafic contact or Paymaster Shear. It is a major structure based upon its discordant nature observed both on surface and 3D modeling (Pope, 2000). The deposits that are the subject of this Report comprise part of a sequence of mineralized bodies which extend from the Dome Mine to the east to the Delnite Mine to the west.

### BUFFALO ANKERITE

#### **STRATIGRAPHY**

The mineralization is located primarily within a narrow pillowed mafic volcanic flow unit of the Central Series, Tisdale Assemblage. The volcanic rocks are complexly folded around the STA and Kayorum Syncline resulting in an S-shaped flexure in the stratigraphy. The pillowed mafic volcanic rock unit, which hosts the main mineralized domains of the Buffalo Ankerite South property, is flanked to the north and south by Hershey Lake Series magnesium-rich ultramafic flow units. In the area of the Buffalo Ankerite, the volcanic flows strike between 065° and 070°, and dip at approximately 60° to the north and thicken to the west. A discontinuous conglomerate unit is located along the contact between a flow-textured mafic volcanic rock unit and the south ultramafic rock unit. The conglomerate sedimentary rock unit is interpreted as Timiskaming in age containing mainly bleached mafic volcanic clasts with occasional porphyry and ultramafic clasts and typically follows this contact and is similarly oriented for dip. Quartz-feldspar porphyries intrude the volcanic rock units and late northwest-trending diabase dykes cut all the above rock types.

Buffalo Ankerite South has a very pronounced plunge of -30° to the west. This plunge represents the bottom of the synclinal structure which hosts the gold mineralization. In the vicinity of section 4200 E the North Zone and the South Zone merge at approximately 1,800 ft below surface. The South Zone structure continues to the west and the North Zone



continues to depth. The structural complexity of this area has not been fully explored, however, it is known that porphyry bodies are common in this area and contain elevated intervals of gold mineralization.

Buffalo Ankerite North is hosted in similar geology but is approximately north-south striking with a steeply to slightly west dip.

### **STRUCTURE**

The F3 axial plane of the STA trends 300° azimuth and plunges steeply to the southeast and Kayorum Syncline is 275° to 280° azimuth plunging to the west-northwest. The regional Destor-Porcupine fault is located immediately to the south within the south ultramafic rock unit and varies from 200 m to 300 m in width. The southwest limb of the STA and northeast limb of the Kayorum Syncline are close to the hinge of the Kayorum Syncline and terminate against the Buffalo Ankerite 135 Fault Zone (Spur Fault). This left-lateral fault separates Buffalo Ankerite South from Buffalo Ankerite North, which were at one time one continuous deposit. The Buffalo Ankerite 35 Fault Zone is northwest-/southeast-trending at approximately 115° azimuth and dips at approximately 80° to the southwest.

### **ALTERATION**

The pillowed mafic volcanic rocks show moderate ankerite and weak sericite alteration while the flanking ultramafic rocks show moderate to strong ankerite alteration with minor local fuchsite. The ultramafic rocks are in fault contact with the mafic volcanic rocks as evidenced by talc fault gouge at the contacts. The degree of alteration intensity varies from east to west, with the strongest alteration in the east where the mafic volcanic rocks narrow towards the Buffalo Ankerite 135 Fault. To the west, alteration weakens coincident with the thickening of the mafic volcanic rocks.

## **FULLER**

### **STRATIGRAPHY**

Fuller is underlain by a generally east-west-trending assemblage of massive and pillowed mafic metavolcanic flows with minor variolitic flows. These have been traced onto the adjacent Paymaster mine and Dome mine properties to the east. To the west, the units are traceable into complex fold structures; part of the package is believed to be folded to the

south around the STA, while the northerly part of the package appears to trend onto the Hollinger mine property.

### **STRUCTURE**

The structure from the Edwards shaft to Buffalo Ankerite South is dominated by an S-shaped fold pattern expressed by the contact between an assemblage of largely massive to pillowed metavolcanic flows on the west, and talc-chlorite schist (meta-ultramafic rocks) with lesser mafic volcanic rock to the east and south. The mineralization on the property occurs stratigraphically above what appears to be the contact between the older ultramafic lower formation and the basaltic middle formation of the Tisdale group.

A ramp was sunk in the vicinity of what was interpreted to be the hinge of the easterly-plunging Fuller synclinal fold. This geology observed in proximity to this ramp has been the best information available in the immediate area of the Fuller deposit.

In a general south to north direction, the succession of rocks includes talc-chlorite schist (metamorphosed ultramafic rocks), quartz-feldspar porphyry, pillowed amygdaloidal basaltic flows, massive basaltic flows, and a series of alternating units of massive, pillowed and amygdaloidal volcanic rocks.

### **ALTERATION**

The porphyry is interpreted to have been intruded prior to folding. Hydrothermally altered volcanic rocks, including a strongly altered unit with more than 50% quartz flooding, green mica and pyrite mineralization, are spatially associated with the porphyry; there are also large folded zones of highly carbonate altered volcanic rocks in contact with the porphyry stocks.

## **PAYMASTER**

### **STRATIGRAPHY**

The north part of the Paymaster property hosts the assemblage of massive and pillowed mafic metavolcanic flows with minor variolitic flows which extend east from the Fuller property which strike 075° and dip from 65° to 80° north.

In the eastern part of the property the Paymaster porphyry intrudes the basalts. On the Preston Mine property a number of smaller porphyry bodies are also present, which are similar in composition typically containing quartz and plagioclase phenocrysts in a very fine grained groundmass of intergrown quartz and plagioclase crystals. The plagioclase phenocrysts are typically subhedral to euhedral and range in size from 0.5 mm to two millimetres. The quartz phenocrysts are anhedral, are 0.3 mm to three millimetres in size, and may constitute up to 20% of the rock mass. The character of the Paymaster and Preston porphyries differs in the presence of inclusions of country rock and the amount and nature of pyrite. The Paymaster Porphyry is characterized by the inclusion of one percent to three percent small (one to ten millimetres) clasts of the country rock, typically of ultramafic composition. No clasts of surrounding host rocks are typically found in the Preston Porphyry.

The Main Zone Porphyry has been drill traced for a strike length of 2,500 ft (760 m) in an east-west direction, and for a depth of 1,900 ft (580 m) below surface. It dips at 45° to 70° to the north. The shallower dips are in the central and shallow areas with steeper dips to the east and at depth that indicate a plunge to the east at approximately 70° to 80°. This corresponds to the plunge as indicated in the mined-out workings.

Sectional information from the central area of the West Porphyry Zone indicates the geometry of the quartz-feldspar units. They are all sub-parallel and moderately north-dipping. Widths can vary greatly both down dip and along strike (P & E and RPA, 2013).

The Paymaster Porphyry has little pyrite mineralization (less than one percent), which occurs as fine-grained disseminations and fracture-controlled veinlets. The pyrite mineralization in the Preston Porphyry ranges from trace amounts at its southern extent to up to two percent to the north (Pressacco, 1999).

### **STRUCTURE**

Both the Paymaster and Preston porphyries have been affected by development of a penetrative fabric called the quartz-sericite-schist (QSS) by Brisbin (1998). This fabric is developed as a complete alteration of the original mineral composition to an assemblage of carbonate and sericite. The sericite is typically fracture-controlled, with the fractures defining a moderate to strong, spaced, anastomosing cleavage (Pressacco, 1999).

**ALTERATION**

All rock types at the mine have some degree of alteration developed, with four principal types of alteration being recognized. Carbonatization and sericitization are the two dominant alteration types, with silicification and chloritization being developed to a lesser degree. The alteration is most strongly developed in the Preston Porphyry where it occurs as strongly developed sericitization immediately adjacent to gold-bearing veins, and as an alteration halo around groups of veins. This light-green coloured sericitization is essentially barren of gold mineralization. Gold mineralization is associated with minimal alteration away from the Preston Porphyry with individual quartz vein lacking visible alteration halos.

The unit termed the “Dacite Flow” has closely spaced quartz veins with alteration halos penetrating two to three feet into the vein walls and is barren of gold mineralization. A similar style of alteration, dubbed “bleaching”, is also observed in association with ankerite veins. Higher grade gold veins display this alteration pattern with fine-grained euhedral pyrite and minor chalcopyrite present (Pressacco, 1999).

**DAVIDSON TISDALE****STRATIGRAPHY**

The property is located in the PGC, along the possible offset easterly projection of the Hollinger-Macintyre trend (Figure 7-1). The property is underlain by a sequence of overturned east-striking, north dipping, pillowed and massive, magnesium tholeiitic volcanic flows of the Tisdale Group. In the southernmost part of the property there are outcrops of the distinctive V8 variolitic flows, underlain by a massive flow (“99”), which forms the basal member of the iron tholeiitic group of rock. Minor graphitic sedimentary rocks containing minor pyrite and pyrrhotite have been noted locally on the property.

**STRUCTURE**

The abundance of faults is one of the most prominent features of the Davidson Tisdale property. Three distinct fault sets have been identified from underground workings on the property (Watts, Griffis, and McOuat, 1988). The faults are moderate to strong shear zones up to two metres thick. All known mineralized blocks lie within or very close to these faults. The “Main Fault” strikes 060° and dips 50° to the north. There is a set of faults, which generally parallel the Main Fault, but dip at 60° to 75° to the north. The second set of faults strikes 025° and dips northwest at 60° to 65°. These have been noted between Level 4 and

Level 5, representing a dilatant zone between two 060° structures. They contain prominent short veins, locally with gold mineralization. The third set trends 080°, and dips 30° to the north. These are limited to the east end of the workings and contain large “blow-outs” of quartz with erratic gold grains.

### **ALTERATION**

Alteration is property-wide, consisting of a low-grade calcite-chlorite envelope enclosing a more intense quartz-sericite-ferro-dolomite or ankerite core. Alteration was not well documented in the historical drill log database and has been observed to be somewhat patchy at the margins. The alteration is largely, if not entirely, pre-faulting.

## **MINERALIZATION**

The following are the main characteristics of gold occurrence in the TGC:

- the dominant source of gold is within quartz vein lodes containing locally coarse free gold;
- the quartz vein lode deposits are structurally controlled areas of dilatancy which permitted the development of vein zones;
- the majority of gold production in the camp is hosted by rocks of the Tisdale Group;
- some gold production is hosted in pyrite-bearing pyroclastics within the mafic volcanics of the Tisdale Group;
- some production comes from quartz veins within the sediments of the Porcupine Group where they unconformably overlie productive portions of the Tisdale Group.

The main minerals of the gold-bearing zones are quartz, carbonates, alkali feldspar (most commonly albite), sericite, pyrite, tourmaline, arsenopyrite, scheelite, and molybdenite. Pyrrhotite is common in the deep parts of deposits, as well as in deposits hosted in banded iron formation (BIF). Arsenopyrite seems to be common in deposits hosted in sedimentary rocks.

The concentration of gold may be considered to be a product of the alteration process, as well as the concentrations of barite, tungsten, antimony, tellurium, molybdenum, and arsenic. Although gold in quartz veins is the most distinctive occurrence, the gold in some deposits is

also or largely in the altered wall rock. The mineralogy of the individual properties is discussed in the following sub-sections.

### **BUFFALO ANKERITE**

The majority of the mineralization is associated with tourmaline-quartz-carbonate breccia zones (TBX) located within a narrow pillowed mafic volcanic flow unit of the Central Series, Tisdale Assemblage. Breccia fragments are comprised of ankerite-sericite altered pillowed mafic volcanics within a tourmaline-ankerite rich matrix. The finer the size of the carbonatized mafic fragments within the vein, the higher the gold grade.

Pyrite is widespread within these veins and ranges from 5% to 10% with a halo of 3% to 5% pyrite within the highly carbonatized pillowed volcanic flow. Visible gold is generally not observed but a correlation between pyrite content and gold grade has been observed. Gold likely occurs in fractures within the pyrite or along boundaries of the pyrite grains.

Gold values within the conglomerate lithology are associated with quartz and quartz-tourmaline veins with 2% to 5% pyrite content at the vein margins.

### **FULLER**

Most of the mineralization found at Fuller is within the Contact Zone, which is located along the contact between massive and pillowed basalt rock units. Mineralization is characterized by numerous parallel to subparallel quartz-carbonate veinlets hosted within a suite of volcanic rocks. Pyrite is often abundant, both as very fine-grained disseminations and small pyrite trains roughly conformable to the stringers. The Contact Zone meanders along the contact between the pillowed and massive volcanic rock units, and frequently occurs entirely within one of the units. The boundaries of the zone are locally gradational.

The HW Zones are located in the structural hanging wall side of the Contact Zone, partly within the pillowed basalt rock sequence and partly within breccia rocks. The zones are similar to the Contact Zone, but the quartz tends to reflect a pervasive silicification rather than discrete quartz veining.

Mineralization also occurs in highly carbonate-altered zones, and in porphyry bodies with quartz-tourmaline veinlets near the core of the synclinal structure and the Contact and HW Zones. Quartz-tourmaline-calcite veins with minor sulfides occur irregularly distributed throughout the massive volcanic rock unit; they generally vary in width from 0.3 ft to two feet.

A significant type of mineralization which has recently been evaluated is porphyry gold-pyrite-quartz mineralization in the Fuller deposit area where the porphyry has been relatively strongly deformed, particularly near the core of the Fuller syncline. Underground drill holes outlined, around the 500-ft level, a possibly continuous zone of mineralization which may extend laterally for more than 400 ft and vertically approximately 200 ft. Intercepts vary from 0.090 oz/T Au over 86.4 ft to 0.175 oz/T Au over 20.0 ft. Recent drill programs by Lexam have concentrated on evaluating this mineralization especially since it has the potential to be extracted at lower grades using bulk-mining techniques.

Three footwall zones occur north of the Contact Zone in the eastern part of Fuller. These contain quartz veins are designated as the F1 Zone, F2 Zone and F3 Zone. They are very similar to the Contact Zone, but are less silicified, sericitized, carbonatized, with less pyrite mineralization

The Green Carbonate #1 and #2 Zones occur at or near the contacts of feldspar porphyry structurally above the HW Zone. These are similar to carbonate zones found elsewhere, but contain more fuchsite and pyrite. Because they are related to lenses of porphyry, their continuity is somewhat uncertain.

## **PAYMASTER**

The main producing area of the Paymaster is associated with the Paymaster Porphyry stock and other small porphyry bodies to the north and northwest with quartz ankerite veins occurring to the north, west and southwest of the porphyry. In general the tenure of gold in the quartz ankerite veins appears to increase with increased silicification and quartz impregnation partially replacing the ankerite. North- and south-trending white quartz veins are barren. The #10 vein is on the north porphyry contact on the upper levels, dipping 65° away from the porphyry at depth. There is some folding and faulting along this vein. The #1 vein lies north of #10 vein with the two veins joining to the west. This vein extends west through a barren section and is again productive as No. 5 Shaft, #14 vein. The #7 vein is at



the top of the Key flow (sheared variolitic flow top breccia). The #22 vein is on the strike of the #7 vein to the west, but is in a younger flow due to a drag fold. The large #20 (Kurts) vein to the northwest contains erratic gold values but has not produced any ore. In the No. 5 Shaft area, #3-24 vein, lying near the bottom of the #99 flow (chloritized, lightly to moderately foliated uniform textured basalt) has been a substantial producer. The #8 vein lies southwest of the porphyry with the fracture entering the porphyry. The #8 vein terminates at the #18 vein which follows a strong fault. The #36 mineralized zone, lies in volcanics just north of the talc-chlorite carbonate fault zone. This zone is separated from the large ultramafic intrusive sill (or flows) by 30 ft of basalt. There is one narrow quartz carbonate vein in the mineralized zone and only a few stringers. The sulphide content is as high as ten percent combined pyrrhotite, pyrite and locally chalcopyrite. The mineralized zone extends east, and a short distance west, from a tongue of the Edward Shaft Porphyry. The #36 mineralized body is the down plunge extension of the Fuller mineralized body to the west.

The “Porphyry Greenstone” mineralization is associated with the fringes of porphyry bodies located immediately south/south west of the Preston Porphyry. Mineralization consists of strong alteration of the greenstone that may make it difficult to distinguish greenstone from porphyry. Veining is not always present.

The gold mineralization found in the Paymaster Porphyry appears to be related to various combinations of tectonized porphyry with variable amounts of silica, tourmaline, and sericite alteration which seem to define corridors of low level gold mineralization. Within these corridors, the density of quartz-pyrite-tourmaline stringers and microveins appears to determine the pattern of both the elevated and concentrated gold mineralization. These low grade zones are believed to generally trend east-northeast but locally they show more northerly orientations. There is some suggestion that a late stage of folding or deformation event has modified a more linear and primary mineralization trend in addition to generating some of the narrow but often very high-grade veins and veinlets whose orientation is more north-northwest. The veinlets/stringers define steeply north-plunging rod-like zones as suggested by several of the stopes. On a property-scale, the southern and central part of the porphyry appear to have more pervasive gold mineralization which is borne-out by the concentration of mining in those areas.

Mineralization in the No. 2 Shaft Porphyry is similar to that in the Main Porphyry although the alteration is heavily weighted in favour of silicification and potassic alteration. Sericitization is generally weak and erratic. The porphyry is laced with quartz veins of varying intensities and orientations. Rubble or blocky zones are common, reflecting the more brittle nature of the tectonic history. Pyrite is the most common sulphide with up to 10% abundance locally. Low-grade gold mineralization is nearly pervasive, although there seem to be linear zones of more continuous north-trending mineralization. To the south the porphyry body turns west and mineralization decreases rapidly. A similar situation exists to the north where the porphyry system turns to the east. The overall shape of the porphyry suggests a strong shear or deformation zone sub-parallel to the central and mineralized portion.

## DAVIDSON TISDALE

Two types of quartz veins were identified on the property (Brooks, 1987): The first (Type 1) are continuous tabular veins striking generally east-west and dipping 15° to 55° to the north. The other (Type 2) are discontinuous, irregular, sub-vertical and steep north-dipping to shallow south-dipping lenses of quartz stringers and veins, striking 040° to 070° azimuth.

Examples of the Type 1 veins are the “S” vein and the shallow vein stoped on the first mining level. These veins are gently undulating in strike and dip, vary in thickness from 0.5 m to seven metres, banded with seams of tourmaline, and mineralized with minor amounts of pyrite and chalcopyrite in areas of gold enrichment. Drifting and drilling to date indicate extensive barren veining with small high-grade pockets of native gold. The structural significance and predictability these high-grade concentrations are presently unknown (Brooks, 1987). In the areas of the pit, Type 1 veins are uncommon in the drill hole database.

The Type 2 vein quartz vein systems appear to be lenses of quartz veinlets and stringers which are oriented sub parallel to and separated by faults. These vein systems coalesce in places to form “blow-outs” of quartz breccia up to 15 m wide. These quartz veins often give way to shallowly south dipping auriferous quartz-filled tension gashes, which are abruptly terminated at faults. Most gold in the Type 2 veins occurs near vein margins or xenoliths and is associated with patches of talc/muscovite and serpentine (often logged as chlorite), and a local increase in fine- to coarse-grained pyrite and chalcopyrite.

Getty personnel made the following observations regarding the nature of the mineralized zones:

- In the vicinity of the Main Shaft gold occurs in a quartz stringer zone associated with a strong shear and sericite-carbonate alteration halo
- Though the quartz conforms to the shearing along strike, it cross cuts the shearing down dip
- Locally the stringer zones are very irregular and contain very erratic gold values
- Individual veins dip steeply to 90° at the center of the system and locally flatten to 0°, suggesting a sigmoidal pattern
- Interpretation of surface drilling had suggested a “sheet-like” vein system dipping approximately 45° to the northwest
- Underground, the gold mineralization was seen to be largely confined to a series of steeply dipping, en echelon quartz vein fracture systems occurring within the overall 45° dipping structure

The geometries of the mineralized zones were found to have strike lengths up to 40 m, widths of two to four metres, and near vertical dips with dip lengths of approximately 12m. The upper and lower contacts were found to be plunging to west from 20° to 70° and the mineralized zones were observed to en echelon within an envelope. This envelope had a strike of 060° and a dip of 45° north.

## 8 DEPOSIT TYPES

Gold mineralization on the Properties belongs to the structurally controlled Archean lode gold class of deposits. Structurally hosted, low-sulphide, lode gold vein systems in metamorphic terrains from around the world possess many characteristics in common, spatially and through time; they constitute a single class of mesothermal precious metal deposits, formed during accretionary tectonics or continental delamination.

The Superior Province is the largest exposed Archean Craton in the world, and has accounted for more gold production than any other Archean Craton, with the 25 largest known deposits each having produced more than one million ounces (30 t) of gold.

The TGC of the Abitibi Greenstone Belt is the most prolific gold camp in Canada with gold production in excess of 70 million oz.

The majority of lode gold deposits formed proximal to regional terrane-boundary structures that acted as vertically extensive hydrothermal plumbing systems. Major mining camps are sited near deflections, strike-slip or dilational jogs on the major structures. In detail, most deposits are situated in second or third order splays, or fault intersections, that define domains of low mean stress and correspondingly high fluid fluxes. Accordingly, the mineralization and associated alteration is most intense in these flanking domains. The largest lode gold mining camps are in terrains that possess greenschist facies hydrothermal alteration assemblages developed in cyclic ductile to brittle deformation. Smaller deposits are present in terranes characterized by amphibolite to granulite facies alteration assemblages, ductile shear zones, and with veins that have undergone ductile deformation veins (McCuaig and Kerrich, 1998).

Characteristically, the largest gold deposits of the district are spatially associated with, but not in, porphyries similar to those exposed at the Dome mine. This association has led to considerable speculation regarding the genetic relationship of felsic porphyry emplacement to mineralization formation.

At a greenstone-belt scale, Archean gold camps are most commonly related to large-scale (greater than 100 km long), trans-crustal fault zones. However, on a camp scale, most of the world-class (greater than 100 t) gold deposits are hosted in second- and third-order fault zones, whereas the first-order trans-crustal faults are largely barren. There are many examples of trans-crustal faults that are believed to penetrate into the lower crust or even into the mantle. Both the close spatial relationship of world-class gold deposits and trans-crustal fault zones, and the deep penetration of the latter, stimulated the model that trans-crustal fault zones represent the main conduits for gold-bearing hydrothermal fluids from mantle and lower-crustal levels to make their way into dilatant second- and third-order shear zones that host mineral deposits in the upper crust (Kerrick, 1993).

This model requires that the trans-crustal fault zones and the gold-hosting second- and third-order shear zones were structurally and hydraulically connected at the time of gold mineralization. Due to the fact, however, that most Archean trans-crustal fault zones worldwide are poorly exposed, and their location, strike, and orientation are typically interpreted from aeromagnetic data, there is a general lack of precise structural and fluid chemistry data. In the Abitibi greenstone belt in Canada, however, significant structural and fluid chemistry information does exist for the trans-crustal Cadillac tectonic zone.

## **CHARACTERISTICS OF LODE GOLD DEPOSITS**

This class of gold-silver (Au-Ag) deposits has variously been named lode or reef type, terms that include veins in shear zones, through stockworks, to mineralized wall rocks. The term mesothermal or mesozonal has also been used in view of their predominance in mid-crustal, greenschist facies environments. The deposits, however, are now known to have formed over a large range of crustal depths from greater than 25 km to the near surface environment; hence those earlier terms are not appropriate.

Most lode gold deposits occur in terrains that experienced greenschist facies metamorphism, and the deposits feature greenschist-facies alteration assemblages. Recently, it has been recognized that Archean lode gold deposits in amphibolite and granulite facies terrains share numerous characteristics, such as structural hosting, metal inventory, element association, ore fluid properties and likely source, in common with their greenschist hosted mesothermal counterparts. Accordingly, this class of structurally hosted Au-Ag vein deposits may be

viewed as forming over a crustal depth range, or 'crustal continuum', extending from granulite to sub-greenschist facies environments.

Studies of lode gold deposits of all ages have revealed a number of common characteristics which can be summarized as follows:

- lode gold-rich lode metallogenic provinces are associated with external super-continent cycles, or external domains of internal super-continent aggregation cycles
- the timing of mineralization is late-accretion, within the larger time frame of orogenic belts involving accretion of one or multiple allochthonous terrains
- deposits are sited proximal to major accretionary structures within, or at the boundaries of, composite metamorphosed volcanic-plutonic or sedimentary terrains
- lode gold deposits are distributed in belts of great geological complexity and display gradients of lithology, strain, fluid flow and metamorphic grade typical of accretionary environments
- deposits are structurally hosted, associated with second or higher order splays of trans-lithospheric faults
- the alteration mineral paragenesis in greenschist facies domains is dominated by quartz, carbonate, mica, (albite), chlorite, pyrite, scheelite and tourmaline.
- there is a distinctive element association characterized by enrichment in Au, Ag (minor As, Sb, Te, W, Mo, Bi, B), with low enrichments of Cu, Pb, Zn relative to the background abundances. In Phanerozoic deposits Mo and Te are only enriched where veins cut felsic intrusions.
- mineral deposit forming hydrothermal fluids are dilute aqueous carbonic fluids, with uniformly low fluid salinities.
- lode systems may have vertical extents of up to two kilometres, with a lack of zoning, or weak zoning, within deposits, albeit with some zoning of metal content at the scale of an entire mining district.

## **9 EXPLORATION**

The predominant exploration work undertaken on the Properties is diamond drilling which is summarized in Section 10.



## 10 DRILLING

This section is derived from P&E and RPA (2013).

Diamond drilling has comprised the majority of the exploration work done on the Properties. Much of this work is historical in nature and, as such, many of the associated details are no longer available. More recently, Lexam conducted extensive surface drilling on the Properties from 2003 to 2012.

All drill holes produced NQ-diameter (47.6 mm) core. Norex Drilling of Timmins, Ontario was the contractor for most of the drilling. Occasionally, a core hole might intersect an underground working (i.e., a drift, raise or stope). When this happened the core size was reduced to BQ-diameter (36.5 mm) and, if possible, the drilling continued. Some of these holes were lost but most managed to continue on to their target depths.

Collars were surveyed by a differential corrected GPS instrument accurate to within 0.1 m. Down hole surveys were carried out using a Reflex Early Shot instrument with readings taken every 50 m down-the-hole.

Core was picked up twice per day by Lexam core technicians and taken to the core logging facility located at the Davidson Tisdale property. Core was logged by the geologist into the Geotic Log system. Sample intervals were marked by the geologist based upon observations of lithology, alteration, and mineralization. The Geotic lithological legend was later carried over to the Gemcom GEMS 3D modelling software system.

### BUFFALO ANKERITE

Lexam completed significant surface diamond drilling on the Buffalo Ankerite Property during the period from 2005 to 2012. The majority of the drilling was conducted at Buffalo Ankerite South, supplementing the exploration and resource work completed by Placer Dome from 2002 to 2005. A limited amount of underground drilling was completed by Buffalo Ankerite Mines Ltd. and is included in the resource estimate which is the subject of this Report. RPA

notes, however, that the majority of the data within the Buffalo Ankerite drill hole database has been collected by Lexam or its predecessor company.

To date, Lexam has drilled 225 core holes for an aggregate length of 81,225.5 m consisting of 66 drill holes in the North Zone (26,806.1 m) and 159 drill holes in the South Zone (54,419.4 m). A summary of the drilling on the Buffalo Ankerite Property is as follows:

- Diamond Drilling to date by Lexam and predecessor companies, 2005-2012, has totalled 81,225.5 metres of diamond core data from 225 drill holes.
- North Zone: 66 drill holes, 87,946.7 ft or 26,806.1 m.
- South Zone: 159 drill holes, 178,541.2 ft or 54,419.4.

The South Zone has a very pronounced plunge of -30 degrees to the west. This plunge represents the bottom of the synclinal structure which hosts the gold mineralization. In the vicinity of section 4200 E the North Zone and the South Zone merge at approximately 1800 feet below surface. The South Zone structure continues to the west and the North Zone continues to depth. The structural complexity of this area has not been fully explored, however it is known that porphyry bodies are common in this area and contain elevated intervals of gold mineralization.

The North Zone is hosted in similar geology but is approximately north-south striking with a steeply to slightly west dip.

## FULLER

Lexam completed significant surface diamond drilling on the Fuller Property during the period 2004 through 2012. The majority of the drilling was conducted on the Contact Zone/Edwards porphyry area. Other drilling included in the resource is a significant amount of both surface and underground drilling completed by various operators during the period 1984-1987 and 1996-1999.

Diamond Drilling to date by Lexam and predecessor companies from 2004-2012, has totalled 19,087.0 metres (62,621.2 feet) of diamond core data from 65 drill holes.

The core or central area of the Fuller zones were well tested by the earlier drilling, therefore the focus of Lexam drilling was to expand the Fuller mineralization along strike or to depth

Lexam tested targets including the east Paymaster boundary area and the south to southeast extension of Contact Zone mineralization on the south limb of the “Fuller syncline” towards the Buffalo Ankerite No. 5 shaft area. Assay results, in general, were mixed. Several mineralized/carbonate-altered zones were intersected, but gold assay results associated with these altered zones were predominantly not anomalous.

Additional drilling was completed to test for extensions of the Green Carb Zones 1 and 2 of the Fuller deposit. The holes tested for extensions of the Green Carb zone within 50 m of the existing ramp and underground workings, 50 to 100 m along strike from historic green carb zone intersects. Every hole intersected gold mineralization within or adjacent to the fuchsite and ankerite altered quartz-feldspar porphyry, host rock to the Fuller Green Carb zone mineralization.

A drill program was completed to test for extensions of the ML Zone of the Fuller deposit. The ML zone has not been included in the earlier resource estimates of the Fuller deposit. The ML zone likely represents the extension of the more extensively drilled Green Carb Zones that are located on the east side of the fold from the Fuller deposit underground workings. Exploration data is sparse on the western extensions of the Fuller deposit situated on the west side of the fold. Historic interpretation of the Fuller deposit was that of a single fold, however evidence existed that in fact the Fuller deposit was an “S” fold with the stratigraphy and mineralization extending to the west rather than trending southeast. Earlier exploration had just begun to confirm this. Drilling confirmed the existence of the Fuller zones with wide intersections of fuchsite ankerite alteration corresponding to the extension of the Green Carb 1 and 2 Zones.

In 2011, Lexam switched the focus of drilling at the Fuller Property to evaluate the potential of a near surface or open pit model of mineralization, focusing on the mineralization within and proximal to the altered quartz-feldspar Porphyry within the synclinal structure of the Fuller zones. Drilling was targeted at testing the potential of the Edwards porphyry combined with the Fuller Zones to host near surface Au mineralization. Most of the holes intersected

significant widths of Quartz-feldspar porphyry (QFP), mostly well altered, with intermittent sections of good pyrite mineralization.

Results include:

- Hole VGF-12-145 assayed 3.19 g/t Au over 19.1 m including 8.58 g/t Au over 3.7 m at approximately 100 m vertical below surface.
- Hole VGF-12-137 assayed 2.44 g/t Au over 21.0 m including 8.58 g/t Au over 3.7 m at approximately 100 m vertical below surface.

The results indicated the potential for the Edwards porphyry to host near surface low grade Au mineralization. The potential here is in the near surface environment and re-examination of the resource with an open pit model and therefore a lower cut-off grade being used in the calculation of the resource.

## **PAYMASTER**

During the latter half of 2009 and through 2010, Lexam focused on exploration on the Paymaster West Porphyry Zone, which is situated entirely on the Paymaster Property, and was mined in 1915-1928 from surface to 600 ft.

A total of 136 drill holes and 46,016.1 m have been drilled by Lexam on the Paymaster Property. The majority of the program consisted of drilling at the 2/3 Shaft Porphyry area and the Buffalo Ankerite North Zone.

The majority of the Lexam holes in 2012 were drilled on the West Porphyry or 2/3 Shaft area of the Paymaster Property, following up on the success of the historic drilling as well as on drilling conducted by Placer Dome

The nature of the program was two-fold:

- Expand and further delineate the near surface mineralization to advance the project toward a resource estimate.
- Explore the zone to depth and down plunge.

The drilling has been successful in outlining significant near-surface material of a potential bulk mining nature. As well, mineralized higher-grade chutes have been identified at depth that may indicate a potential higher-grade underground mining scenario.

The Main Zone Porphyry has been drill traced for a strike length of 2,500 ft (760 m) in an east-west direction, and for a depth of 1,900 ft (580 m) below surface. It dips at 45° to 70° to the north.

The shallower dips are in the central and shallow areas with steeper dips to the east and at depth, and plunging to the east at approximately 70° to 80°. This corresponds to the plunge as indicated in the mined-out workings.

The comparison of the Lexam results to the high-grade historic results is favourable, with similar width values for both sets of data. The historic results have a few zones of greater than 50 m, while the Lexam results have a maximum width of 38.6 m; however the two data sets have similar numbers of zones greater than 25 m. The earlier historic data (West Dome, circa 1920) shows an extremely large number of composites greater than 50 g/t x m. This data is probably skewed by a higher background of gold contamination in the sample preparation stage. The Dome data and the data at depth from the 1500 (Buffalo Ankerite) and 2500 (Paymaster) levels is comparable to the Lexam results. It would therefore not be prudent to place a great emphasis on the West Dome assay results and they should not be included in any resource calculations. However, the length of the composites and the lithological data is comparable to the Lexam data and could be utilized in the geological modeling.

Sectional information from the central area of the West Porphyry Zone indicates the geometry of the quartz-feldspar units. They are all sub-parallel and moderately north dipping. Widths can vary greatly both down dip and along strike. The main porphyry on these two sections is quite well mineralized with virtually every hole having fairly homogenous gold mineralization. Occasionally a high grade nugget is intersected, which skews the composite to the high side. For example hole VGP-10-83 on section 6,400E intersected 30.99 g/t Au over 24.7 m. The intersection is heavily weighted by a sample which assayed 366 g/t Au over 2.0 m. However, cutting the high grade sample to 30 g/t stills yields an impressive result of 4.03 g/t Au over 24.7 m. As can be seen on the sections

the porphyry unit and the Au values are quite respect to the gold mineralization, being more erratically mineralized. However, the adjacent units appear to be geologically continuous and with fewer pierce points they represent valid exploration targets.

## **DAVIDSON TISDALE**

Lexam conducted surface drilling on the Davidson Tisdale Property during the period 2003 to 2010, completing a total of 91 holes for 23,123.2 m of drilling. Forty-six holes and 18,467.2 m targeted the Main Zone and 45 holes, for 46,560 m were completed on the South Zone.

Drilling was primarily focused on increasing the resource of the Main Zone, along strike and at depth. Previous exploration had been concentrated in the vicinity of the historic workings with little drilling below the 500-foot level of the mine. Typically, mines in the Timmins Camp have great depth extent, commonly exceeding 2,000 ft.

Results indicate the high gold grades associated with the Main Zone mineralization when the vein system is encountered. The term Quartz Vein System (QVS) refers to zones of quartz mineralization hosted within the altered Mafic Volcanic. The QVS forms bodies of quartz containing assimilated host rock with pyrite and visible gold. The QVS is within an envelope striking 70° and dipping to the north at approximately 70°. The individual vein sets within this envelope can have various orientations, from steep to flat, and varying dimensions.

# 11 SAMPLE PREPARATION, ANALYSES AND SECURITY

## BUFFALO ANKERITE

### DRILL PROGRAM PROCEDURES

The sample preparation, analyses and security procedures for drilling carried out by VG Gold Corp., at the Buffalo Ankerite Property for the period from 2002 to 2006 have been described in the following reports:

- A February 11, 2009 report, authored by Peter A. Bevan, P.Eng., titled “Qualifying Report on the Buffalo-Ankerite Property, South Porcupine, Northern Ontario, Canada” and;
- An October 20, 2012 report, authored by Peter A. Bevan, P.Eng. and Kenneth W. Guy, P.Geo., titled “Resource Estimate on the Buffalo Ankerite Property, Porcupine Mining Division, Northeastern Ontario, Canada”.

Both reports are available on the SEDAR website.

All drill core from the 2009 to 2012 drill programs at the Buffalo Ankerite Property, was picked up from the drill site and directly delivered to the Company’s South Porcupine core logging facility by Lexam core technicians.

The core technicians then measured the drill core and stapled a metal tag to each of the core boxes with the hole number, box number and footage recorded on the tag. The technicians also took measurements from the drill core, including Rock Quality Designation (RQD), core recovery, and orientation of any structures, contacts and veins.

Company geologists logged the drill core, recording the lithological, structural, alteration and mineralogical features observed, as well as selected samples to be analyzed based on the alteration, mineralization and veining observed.

The core was then cut lengthways in half using a manual core splitter. One half of the core sample was placed in a plastic sample bag containing a sample tag for easy identification and then sealed for shipping to the assay laboratory.



Prior to shipment to the laboratory, samples were securely stored at the South Porcupine core facility, which is locked with a security system. The remaining half core was left in the core box and stored at the Company's South Porcupine core facility for future reference.

Ninety nine percent (99%) of the core had 100% core recovery and Lexam has stipulated that no drilling, sampling or recovery factors were encountered that would materially impact the accuracy and reliability of the analytical results. No factors were identified by P&E, which may have resulted in a sample bias.

### **SAMPLING PROTOCOL**

Samples were transported directly to the ALS Chemex Laboratory in Timmins, Ontario (ALS) by Lexam core technicians for sample preparation and analyses.

ALS has developed a Quality Management System ("QMS") designed to ensure the production of consistently reliable data and implemented this at each of its locations. The system covers all laboratory activities and takes into consideration the requirements of ISO standards.

ALS maintains ISO registrations and accreditations, and most ALS laboratories are registered or are pending registration to ISO 9001:2008. A number of analytical facilities, including the Timmins Laboratory, have received ISO 17025 accreditations for specific laboratory procedures.

At ALS, the samples were dried and crushed to 70% passing minus ten (-10) mesh. A Jones riffle splitter was used to take a 250 g sub sample for pulverizing and the reject portion was bagged and stored. After reducing the 250 g sample to 85% passing -200 mesh, the sample was thoroughly blended and a 30 gram charge was assayed for gold by standard fire assay-inductively coupled plasma (ICP) finish. Gold values in excess of 10 ppm were re-analyzed by fire assay with gravimetric finish for greater accuracy.

A secondary laboratory, Laboratoire Expert (Expert) of Rouyn-Noranda, Quebec, was used to check the analyses obtained by ALS. Expert is registered under ISO 9001:2000 quality standard and participates in the CANMET PTP-MAL Laboratory Proficiency testing.

## **DIAMOND DRILLING QUALITY ASSURANCE/QUALITY CONTROL**

Lexam did not undertake their own Quality Assurance and Quality Control Program (QA/QC Program) for the drilling carried out at their Buffalo Ankerite Property. They instead relied upon ALS's own internal QA/QC Program, as well as submitting 10% of all pulp samples to a second laboratory (Expert) for check analysis. Both the internal laboratory QA/QC and the check analysis are discussed in Section 12.

There is no report of an independent, external QA/QC Program. An internal laboratory QA/QC Program, however, was run and consisted of the insertion of one standard and one duplicate for every 20 assays. RPA could not confirm that the standards used were certified. RPA notes that no QA/QC issues were reported.

## **FULLER**

### **PRE-2007 PROGRAMS**

Sample preparation, analysis, and security on the Fuller Property prior to 2009 were described by Wardrop in the previous technical report (Wardrop, 2007) and are summarized below.

Sampling procedures and protocols were similar for the 1996-1998, 2004, and 2006-2007 drilling campaigns. Drill core sections were sampled according to lithological and/or alteration boundaries and vein(s) width, with the maximum sample interval not exceeding five feet in length. The sections of core to be sampled were split, with half-core retained for assay and the remainder stored in core boxes. All of the sections of sampled core were cut using a manual core splitter.

The sample preparation and analytical work was carried out by Swastika Laboratories of Kirkland Lake, Ontario, for the 1996-1998 drilling campaigns and by Laboratoire Expert Inc. (Expert) in Rouyn Noranda, Quebec, for the 2004 and 2006-2007 drilling campaigns. Samples were crushed to 70% passing -2.0 mm and 250 g was collected and pulverized to 85% passing <75 µm in a ring mill. The pulverized sample was then split utilizing a riffle splitter. Analysis for gold was carried out using a one ton (30 g) fire assay with an atomic absorption spectroscopy (AAS) finish.

## **2009-2012 PROGRAMS**

### ***SAMPLING METHODS***

Drill core was laid out at the Lexam core logging facility and marked for sampling by a geologist based on observed geological units, alteration, and veining and/or mineralization intensity. All drill core was photographed after samples were marked. Whenever possible, four core boxes were photographed at a time and the images were downloaded to the Lexam server. Sample length varied from three to seven feet, however, in zones that were well mineralized sample length was limited to about three feet. When visible gold was observed, the drill core was marked for special laboratory analytical methods and photographed separately.

Each core box was labelled on the outside with an aluminum tag noting the drill hole number, box number, and hole depth of each box.

Geochemical results reported from the Fuller Property are from halved drill core samples collected by Lexam personnel on site at their South Porcupine core facility, located on the Tisdale property. Drill core assay samples were taken by a trained Lexam technician and half core splits were bagged and tagged. The core was halved with a manual core splitter. One half of the drill core was secured in a sample bag with a sample number tag. The remaining half was returned to the core box. A duplicate sample tag was stapled into the core box at the start of each sample. The samples were placed into larger bags which were stored in the core logging building until taken to the sample preparation laboratory.

### ***ANALYSIS***

From 2009 to 2012, Lexam used ALS as the primary assay laboratory. Expert, in Rouyn-Noranda, Quebec, was used as the secondary laboratory. Expert has no current accreditations or certifications.

The diamond drill core samples were delivered directly to the ALS sample preparation laboratory in Timmins by Lexam personnel, where the core was subjected to a standard sample preparation of crushing, splitting, and pulverizing. After ALS logged the sample into its tracking system, the sample was crushed to better than 70% passing a 2.0 mm (Tyler 9 mesh, US Std. No.10) screen. A riffle split of up to 1,000 g was pulverized to better than 85% passing 75 µm (Tyler 200 mesh) screen. The pulverized pulp was sent for assay to the ALS laboratory in Val d'Or, Quebec, where a 30 g aliquot was analyzed for gold by fire assay

fusion, with an AAS finish. If the initial AAS finish returned an assay value greater than 10 ppm Au (the upper detection limit of AAS), a second 30 g aliquot from the sample pulp was automatically re-assayed by fire assay fusion using a gravimetric analytical method, with an upper detection limit of 1,000 ppm.

When the Lexam geologist observed visible gold during core logging, the sample was assayed by screen metallica. From the final prepared pulp, 1,000 g was passed through a 100 µm screen to separate the oversize fraction. Any +100 µm material was analyzed in its entirety by fire assay with a gravimetric finish and reported as the Au (+) fraction. The -100 µm fraction was homogenized and two subsamples were analyzed by fire assay with an AAS finish. The average of the AAS results was taken and reported as the Au (-) fraction result. All three values were used in calculating the combined gold content (AuTotal). The gold values for both the +100 µm and -100 µm fractions were reported together with the weight of each fraction as well as the calculated total gold content of the sample.

The Fuller drill programs from 2009-2012 relied primarily on the ALS internal sample blanks, standards, and duplicates for quality control. In addition, 10% of the pulp samples were sent to the second laboratory, Expert, for assay verification. The pulps were re-assayed using the same methods used by ALS.

#### **DRY BULK DENSITY MEASUREMENTS**

Dry bulk density samples were taken in 2011 and 2012 by Lexam personnel on altered and unaltered drill core, primarily in mineralized intersections. Measurements were made by weighing the core dry and then immersing the core in a bucket of distilled water, and weighing the core again. The dry bulk density was calculated using the following formula:

$$\text{Dry Bulk Density} = \frac{\text{Weight of core dry (g)}}{\text{Weight of core dry (g)} - \text{Weight of core in water (g)}}$$

The calculated measurement was converted to tons per cubic feet for use in the Mineral Resource estimate.

**SECURITY**

Lexam does not have formal security procedures, however, all samples are collected and transported by Lexam personnel. The core logging facility is locked; there is an alarm system, and the entire facility is fenced with access via a locked gate.

RPA does not believe that there is any problem with sample security.

**PAYMASTER****PLACER DOME**

RPA has no knowledge of the Placer Dome sample preparation, analysis and security procedures on the Paymaster Property.

Placer Dome conducted comprehensive QA/QC Programs during all of their drilling on the Paymaster Property to validate the assay results received. This included blind repeat assays at the primary laboratory and check assaying at a secondary laboratory. RPA has been unable to verify the Placer Dome QA/QC Program and results.

**LEXAM****SAMPLING METHODS**

Drill core was laid out at the Lexam core logging facility and marked for sampling by a geologist based on observed geological units, alteration, and veining and/or mineralization intensity. All drill core was photographed after samples are marked. Whenever possible, four core boxes were photographed at a time and the images were downloaded to the Lexam server. Sample length varied from three to seven feet, however, in zones that are well mineralized sample length was limited to about three feet. When visible gold was observed, the drill core was marked for special laboratory analytical methods and photographed separately.

Each core box was labelled on the outside with an aluminum tag noting the drill hole number, box number, and hole depth of each box.

Geochemical results reported from the Paymaster Property are from halved drill core samples collected by Lexam personnel on site at their South Porcupine core facility, located on the Tisdale Property. Drill core assay samples were taken by a trained Lexam technician and half core splits were bagged and tagged. The core was halved with a manual core splitter. One half of the drill core was secured in a sample bag with a sample number tag. The remaining half was returned to the core box. A duplicate sample tag was stapled into the core box at the start of each sample. The samples were placed into larger bags which were stored in the core logging building until taken to the sample preparation laboratory.

#### **ANALYSIS**

From 2009 to 2012, Lexam used ALS, an ISO 17025 accredited testing laboratory, as the primary assay laboratory. Expert, in Rouyn-Noranda, Quebec, was used as the secondary laboratory. Expert has no current accreditations or certifications.

The diamond drill core samples were delivered directly to the ALS sample preparation laboratory in Timmins by Lexam personnel, where the core was subjected to a standard sample preparation of crushing, splitting, and pulverizing. After ALS logged the sample into its tracking system, the sample was crushed to better than 70% passing a 2.0 mm (Tyler 9 mesh, US Std. No.10) screen. A riffle split of up to 1,000 g was pulverized to better than 85% passing 75 µm (Tyler 200 mesh) screen. The pulverized pulp was sent for assay to the ALS laboratory in Val d'Or, Quebec, where a 30 g aliquot was analyzed for gold by fire assay fusion, with an AAS finish. If the initial AAS finish returned an assay value greater than 10 ppm Au (the upper detection limit of AAS), a second 30 g aliquot from the sample pulp was automatically re-assayed by fire assay fusion using a gravimetric analytical method, with an upper detection limit of 1,000 ppm.

When the Lexam geologist observed visible gold during core logging, the sample was assayed by screen metallica. From the final prepared pulp, 1,000 g was passed through a 100 µm screen to separate the oversize fraction. Any +100 µm material was analyzed in its entirety by fire assay with a gravimetric finish and reported as the Au (+) fraction. The -100 µm fraction was homogenized and two subsamples were analyzed by fire assay with an AAS finish. The average of the AAS results was taken and reported as the Au (-) fraction result. All three values were used in calculating the combined gold content (AuTotal). The gold

values for both the +100 µm and -100 µm fractions were reported together with the weight of each fraction as well as the calculated total gold content of the sample.

The Paymaster drill programs from 2009-2012 relied primarily on the ALS internal sample blanks, standards, and duplicates for quality control. In addition, 10% of the pulp samples were sent to the second laboratory, Expert, for assay verification. The pulps were re-assayed using the same methods used by ALS.

#### **DRY BULK DENSITY MEASUREMENTS**

Dry bulk density samples were from 2006 to 2012 by Lexam personnel on altered and unaltered drill core, primarily in mineralized intersections. Measurements were made by weighing the core dry and then immersing the core in a bucket of distilled water, and weighing the core again. The dry bulk density was calculated using the following formula:

$$\text{Dry Bulk Density} = \frac{\text{Weight of core dry (g)}}{\text{Weight of core dry (g)} - \text{Weight of core in water (g)}}$$

The calculated measurement was converted to tons per cubic feet for use in the Mineral Resource estimate.

#### **SECURITY**

Lexam does not have formal security procedures; however, all samples are collected and transported by company personnel. The core logging facility is locked; there is an alarm system, and the entire facility is fenced with access via a locked gate.

RPA does not believe that there is any problem with sample security.

In the opinion of RPA, sampling, sample preparation, assaying, and security procedures used by Lexam at the Paymaster Property are reasonable and acceptable for generation of data to use for Mineral Resource estimation.



## **DAVIDSON TISDALE DEPOSIT**

### **DRILL PROGRAM PROCEDURES**

The sample preparation, analyses and security procedures for drilling carried out by Vedron Gold Inc., at the Davidson-Tisdale Property for the period from 2003 to 2005 have been described in the following report:

A March 23, 2007 report, authored by Kenneth Guy, P.Geo., titled “Exploration Report 2003-05 and Resource Estimate Technical Report on the Tisdale Project, Porcupine Mining Division, Northeastern Ontario, Canada”.

All drill core from the 2010 to 2012 drill programs at the Davidson-Tisdale Property, was picked up from the drill site and directly delivered to the Company’s South Porcupine core logging facility by Lexam core technicians.

The core technicians then measured the drill core and stapled a metal tag to each of the core boxes with the hole number, box number and footage recorded on the tag. The technicians also took measurements from the drill core, including RQD, core recovery, and orientation of any structures, contacts and veins.

Company geologists logged the drill core, recording the lithological, structural, alteration and mineralogical features observed, as well as selected samples to be analyzed based on the alteration, mineralization and veining observed.

The core was then cut lengthways in half using a manual core splitter. One half of the core sample was placed in a plastic sample bag containing a sample tag for easy identification and then sealed for shipping to the assay laboratory.

Prior to shipment to the laboratory, samples were stored at the South Porcupine core facility, which is locked with a security system. The remaining half core was left in the core box and stored at the Company’s South Porcupine core facility for future reference.

Ninety nine percent (99%) of the core had 100% core recovery and Lexam has stipulated that no drilling, sampling or recovery factors were encountered that would materially impact

the accuracy and reliability of the analytical results. No factors were identified by P&E, which may have resulted in a sample bias.

### **SAMPLING PROTOCOL**

Samples were transported directly to ALS in Timmins, Ontario by Lexam core technicians for sample preparation and analyses.

ALS has developed a Quality Management System (“QMS”) designed to ensure the production of consistently reliable data and implemented this at each of its locations. The system covers all laboratory activities and takes into consideration the requirements of ISO standards.

ALS maintains ISO registrations and accreditations, and most ALS laboratories are registered or are pending registration to ISO 9001:2008. A number of analytical facilities, including the Timmins Laboratory, have received ISO 17025 accreditations for specific laboratory procedures.

At ALS, the samples were dried and crushed to 70% passing minus ten (-10) mesh. A Jones riffle splitter was used to take a 250 g sub sample for pulverizing and the reject portion was bagged and stored. After reducing the 250 g sample to 85% passing -200 mesh, the sample was thoroughly blended and a 30 gram charge was assayed for gold by standard fire assay-ICP finish. Gold values in excess of 10 ppm were re-analyzed by fire assay with gravimetric finish for greater accuracy.

A secondary laboratory, Laboratoire Expert (“Expert”) of Rouyn-Noranda, Quebec, was used to check the analyses obtained by ALS. Expert is registered under ISO 9001:2000 quality standard and participates in the CANMET PTP-MAL Laboratory Proficiency testing.

### **DIAMOND DRILLING QUALITY ASSURANCE/QUALITY CONTROL**

Lexam did not undertake their own Quality Assurance and Quality Control Program (“QA/QC Program”) for the drilling carried out at their Davidson-Tisdale Property. They instead relied upon ALS’s own internal QA/QC Program, as well as submitting 10% of all pulp samples to a

second laboratory, Expert, for check analysis. The internal laboratory QA/QC for ALS is discussed in Section 12.

It is recommended that Lexam implement a QA/QC Program for future drilling undertaken at the Davidson-Tisdale Property. These recommendations are detailed in the Recommendations Section of the report.

In RPA's opinion, sampling, sample preparation, assaying, and security procedures used by Lexam at the Timmins Properties are reasonable and acceptable to support a PEA.

## 12 DATA VERIFICATION

### BUFFALO ANKERITE

#### SITE VISIT AND DUE DILIGENCE SAMPLING

The Buffalo Ankerite Property was visited by Mr. Antoine Yassa, P.Geo., an independent Qualified Person as defined by NI 43-101 Standards of Disclosure for Mineral Projects, on November 6 and 7, 2012. Ninety-six (96) samples were collected from 61 holes by sawing a ¼ split of the half core remaining in the box. The samples were documented, bagged, and sealed with packing tape and were taken by Mr. Yassa to Dicom in Rouyn-Noranda, QC. From there, the samples were shipped to the offices of P&E in Brampton, ON, and sent by courier to AGAT Laboratories in Mississauga, ON for analysis. Gold was analyzed using fire assay on a 30 g aliquot with an AAS finish. Samples yielding values greater than 10 g/t Au were re-assayed and quantitatively determined using the gravimetric method.

AGAT Laboratories employs a quality assurance system to ensure the precision, accuracy and reliability of all results. The best practices have been documented and are consistent with:

- The International Organization for Standardization's ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories" and the ISO 9000 series of Quality Management standards".
- All principles of Total Quality Management (TQM).
- All applicable safety, environmental and legal regulations and guidelines.
- Methodologies published by the ASTM, NIOSH, EPA and other reputable organizations.
- The best practices of other industry leaders.

At no time, prior to the time of sampling, were any employees or other associates of Lexam advised as to the location or identification of any of the samples to be collected.

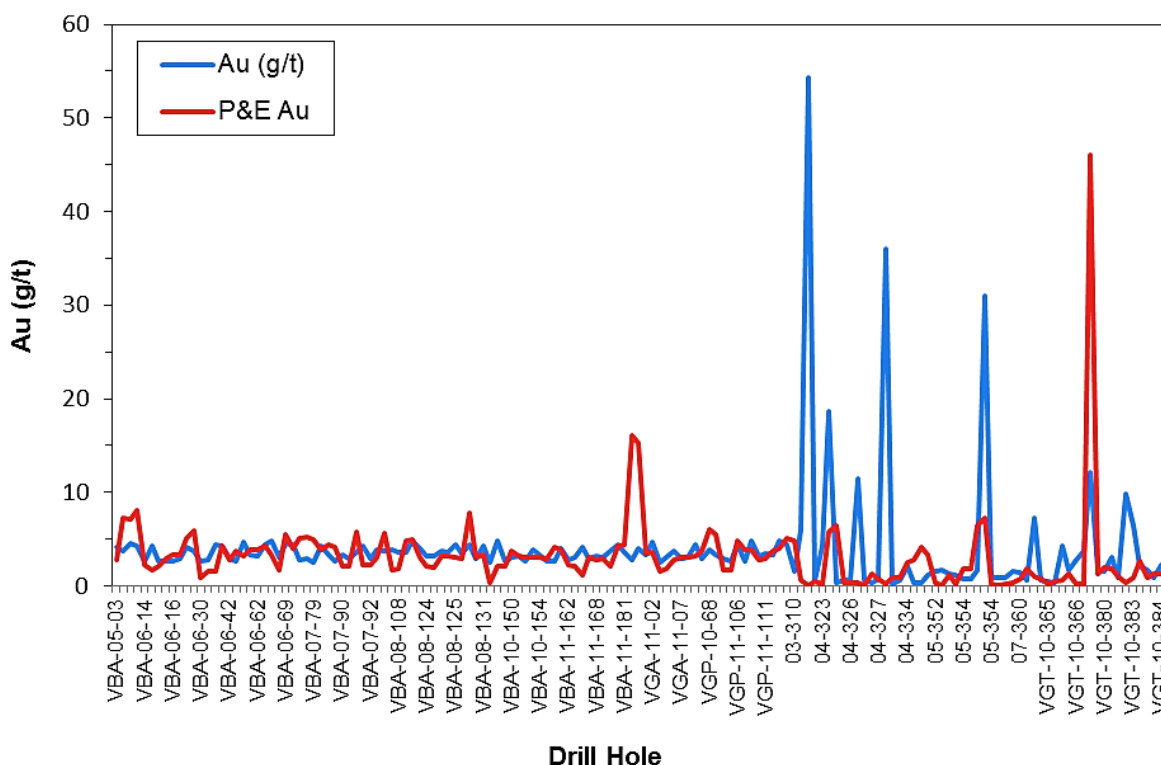
Lexam completed significant surface diamond drilling on the Buffalo Ankerite Property during the period 2005 through 2012. The majority of the drilling was conducted on the Buffalo

Ankerite South Zone, expanding on the exploration and resource work completed by Placer Dome during the period 2002 through 2005.

Lexam did not insert any of their own QC samples, and P&E felt that in order to validate the earlier drill holes in the database, (in addition to verifying all lab internal QC), a larger than normal number of samples would need to be collected. Holes drilled in years 2005 through 2012 were sampled by Mr. Yassa.

A comparison of the P&E independent sample verification results versus the original assay results for gold is shown in Figure 12-1. The P&E results demonstrate that results obtained and reported by Lexam were reproducible, though there is evidence of a nugget effect.

**FIGURE 12-1 P&E DUE DILIGENCE DRILL CORE SAMPLING FOR GOLD AT BUFFALO ANKERITE**



## QUALITY ASSURANCE/QUALITY CONTROL

Lexam did not implement a QA/QC Program for any of the drilling, however they did rely upon the ALS (principal lab) and Expert (secondary lab) internal QC. Each of these labs

implemented strict quality assurance/quality control programs and all resulting data were obtained by P&E and verified for accuracy, precision and absence of contamination.

Holes drilled on the Buffalo Ankerite Property, as well as many holes drilled on the Paymaster Property contributed to the current mineral resource estimate, and as such, QC for each property was evaluated. For the Paymaster Property, all QC was verified, in spite of the fact that not all holes pertained to Buffalo Ankerite.

### **ALS MINERALS INTERNAL LAB QC FOR BUFFALO ANKERITE**

From 2009 through 2012, there were 18 different certified reference materials used at one point or another during the drill programs. No data prior to 2009 were available. Standards were purchased from either Ore Research and Exploration Ltd Pty (ORE) in Australia, or Rocklabs in New Zealand. A single standard was purchased from CDN Resource Labs in Vancouver (Langley), Canada.

All 18 standards were graphed, using the  $\pm 2$  and  $\pm 3$  standard deviation limits as warning and tolerance limits, respectively. There were over 800 standards pertaining to the Buffalo Ankerite holes analyzed at ALS during 2009 to 2012. The standards demonstrated excellent performance, with only a very minor number of failures outside the tolerance limits.

### **EXPERT LABS INTERNAL QC FOR BUFFALO ANKERITE**

Expert used three different certified reference materials during the drill programs, and all three were purchased from Rocklabs in New Zealand.

The three standards were graphed, using the  $\pm 2$  and  $\pm 3$  standard deviation limits as warning and tolerance limits, respectively. There were 76 standards pertaining to the Buffalo Ankerite holes analyzed at Expert during 2009 to 2012. The standards demonstrated excellent performance, with no failures outside the tolerance limits.

### **ALS MINERALS INTERNAL LAB QC FOR PAYMASTER**

From 2009 through 2012, there were 21 different certified reference materials used at one point or another during the drill programs. No data prior to 2009 were available. All standards

were purchased from either ORE or Rocklabs, apart from two standards which were purchased from CDN Resource Labs in Vancouver, Langley, Canada.

All 21 standards were graphed, using the  $\pm 2$  and  $\pm 3$  standard deviation limits as warning and tolerance limits, respectively. There were over 1,200 standards pertaining to the Paymaster holes analyzed at ALS during 2009 to 2012. The standards demonstrated excellent performance, with only a very minor number of failures outside the tolerance limits.

#### **PERFORMANCE OF BLANK MATERIAL**

##### ALS Minerals Internal Lab Blanks for Buffalo Ankerite

There were over 625 blanks inserted with the samples from 2009 to 2012 and all of them reported less than three times the detection limit, indicating an absence of contamination at the analytical level.

##### Expert Internal Lab Blanks for Buffalo Ankerite

There were 68 blanks inserted with the samples from 2009 to 2012 and all of them reported less than three times the detection limit, indicating an absence of contamination at the analytical level.

##### ALS Minerals Internal Lab Blanks for Paymaster

There were over 725 blanks inserted with the samples from 2009 to 2012 and all of them reported less than three times the detection limit, indicating an absence of contamination at the analytical level.

#### **DUPLICATE PRECISION**

##### ALS Minerals Internal Pulp Duplicates for Buffalo Ankerite

Out of a total of 54,078 (unconstrained) samples, ALS took a second pulp of 1,168 of them and re-assayed them as pulp duplicates. A filter of five times the detection limit of 0.005 g/t Au was applied, in order to get rid of values close to detection limit that would falsely influence the pulp duplicate precision. Of the 1,168 duplicates, 386 were greater than five times the detection limit of 0.005 g/t Au.

A Thompson-Howarth precision plot of the 386 pairs indicated that at the open-pit cut-off grade of 0.50 g/t Au (0.015 opt Au), precision of 20% can be expected, and for the underground resource cut-off grade of 2.5 g/t Au (0.075 opt Au), precision is approximately



17%. A corresponding Absolute Relative Difference versus Mean of the sample pair evaluation yielded comparative results.

P&E declared the Buffalo Ankerite data suitable for use in a mineral resource estimate.

## **FULLER PROPERTY**

Katharine Masun, P.Geo., Senior Geologist with RPA, visited the Fuller Property site on November 20-21, 2012. During the site visit, RPA inspected the Fuller Property, including the location of drill collars VGF-11-113, VGF-11-117 and VGF-12-136, the underground decline opening, and the drill rig that was operating on the Property at the time.

RPA carried out a geological core review on lithology, mineralization and sampling, checking against drill logs of the following drill holes: VGF-12-131 and VGF-12-136 through VGF-12-140. During the core review, no notable discrepancies were found: footage tags were placed in the correct locations in the core boxes, samples were clearly and accurately marked, and core boxes were clearly labelled.

RPA reviewed the resource database that formed the basis of the Mineral Resource estimate presented in this Report. This included results from the QA/QC Program and assay certificates for drill hole samples from 2009 to 2012. No drilling or sampling occurred on the Fuller Property from the time of the previous NI 43-101 report in 2007 to 2009.

## **MANUAL DATABASE VERIFICATION**

The review of the resource database included header, survey, lithology, assay, and density tables. Database verification was performed using tools provided within the Gemcom GEMS software package. As well, the assay and density tables were reviewed for outliers. Minor transcription errors and missing data were noted and promptly repaired by Lexam. A visual check on the drill hole collar elevations and topography was completed. No inconsistencies were noted.

RPA compared several thousand assay records for the current Mineral Resource estimate. This included comparison of 2,992 database assay values to the laboratory certificates (ALS)

from drill holes completed from 2009 to 2012. The database was free of gross errors and minor mistakes were promptly corrected by Lexam.

- For records prior to 2009, RPA has relied on Data Verification completed by Wardrop in the 2007 technical report.
- Independent Assays of Drill Core.
- RPA did not collect samples from drill core for independent assay during the site visit.

Other Qualified Persons had previously sampled the mineralization, as discussed in the 2007 Technical Report by Wardrop. In RPA's opinion, the production history of the Fuller Property confirms that the deposit contains mineralization.

## **QUALITY ASSURANCE AND QUALITY CONTROL**

Quality assurance (QA) consists of evidence to demonstrate that the assay data has precision and accuracy within generally accepted limits for the sampling and analytical method(s) used in order to have confidence in future resource estimations. Quality control (QC) consists of procedures used to ensure that an adequate level of quality is maintained in the process of sampling, preparing, and assaying the exploration drilling samples. In general, QA/QC Programs are designed to prevent or detect contamination and allow assaying (analytical) precision (repeatability) and accuracy to be quantified. In addition, a QA/QC Program can disclose the overall sampling–assaying variability of the sampling method itself.

For the Fuller Property QA/QC Program, Lexam uses ALS in Val D'Or, Quebec, an ISO 17025 Accredited Testing Laboratory, as the primary laboratory. Laboratoire Expert Inc. (Expert) in Rouyn-Noranda, Quebec, is used as the secondary laboratory.

## **CERTIFIED REFERENCE MATERIAL (STANDARDS)**

Results of the regular submission of certified reference materials (CRM or standards) are used to identify problems with specific sample batches and long-term biases associated with the regular assay laboratory. Lexam has not incorporated the use of CRMs into its QA/QC Program. Lexam monitors ALS's internal quality control CRM results. RPA reviewed this data and found the results acceptable.

## **BLANKS**

Contamination and sample numbering errors are assessed through blank samples, on which the presence of the elements undergoing analysis has been confirmed to be below the corresponding detection limit. A significant level of contamination is identified when the blank sample yields values exceeding three times detection limit of the analyzed element. In order to be effective, the matrix of the blank sample should be similar to the matrix of the material being routinely analyzed and inserted at a rate of 5%, or one per batch of twenty samples. Lexam's QA/QC protocol does not include blank sample insertion in the sample stream.

Lexam monitors ALS's internal quality control blank results. RPA reviewed this data and found the results acceptable.

## **DUPLICATES**

Field duplicates assess the variability introduced by sampling the same interval. The duplicate splits are bagged separately with separate sample numbers so as to be blind to the sample preparation laboratory. The duplicates contain all levels of sampling and analytical error and are used to calculate field, sample preparation, and analytical precision. They are also a check on possible sample over selection; that is, the sampler has either purposely or inadvertently sampled the geological material (usually drill core) so as to preferentially place visible mineralization in the sample bag going for analysis.

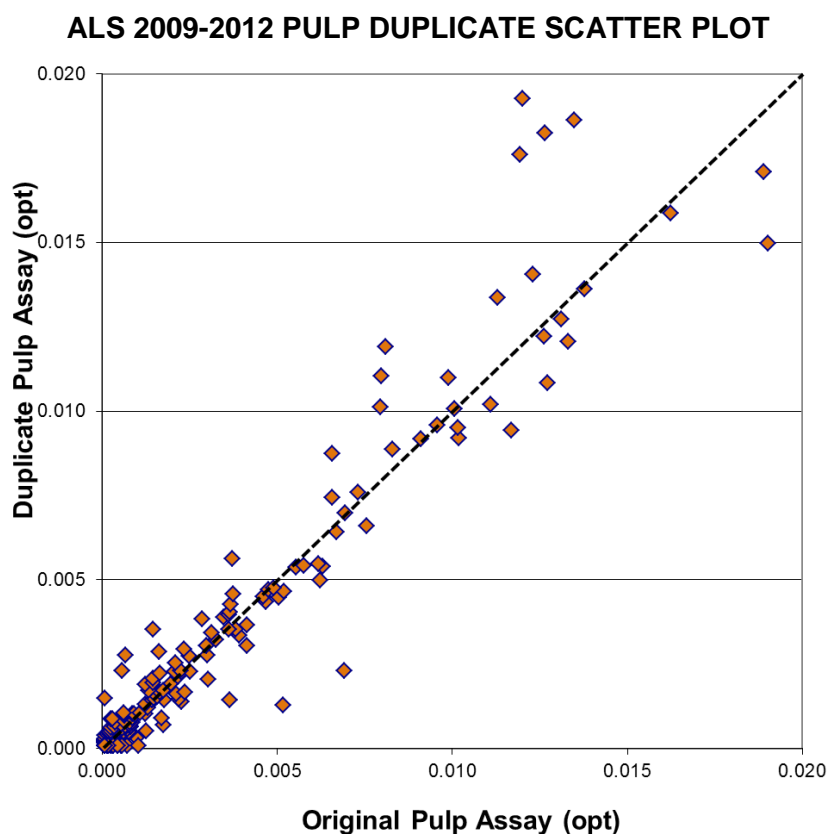
Coarse duplicates (or coarse reject duplicates) are duplicate samples taken immediately after the first crushing and splitting step. The coarse duplicates will inform about the sub-sampling precision. In order to ensure repeatability conditions, both the original and the coarse duplicate samples should be submitted to the same laboratory (primary laboratory), in the same sample batch and under a different sample number, so that pulverization and assaying follow the same procedure.

Pulp duplicates consist of second splits of final prepared pulverized samples, analyzed by the same laboratory as the original samples under different sample numbers. The pulp duplicates are indicators of the analytical precision, which may also be affected by the quality of pulverization and homogenization (i.e., sub-sampling variance introduced during pulp preparation from splits of the original coarse reject material).

One component of ALS's QA/QC Program is the regular measurement of laboratory duplicate samples. Lexam has relied on the results of ALS's pulp duplicates to ensure that analytical precision meets project requirements.

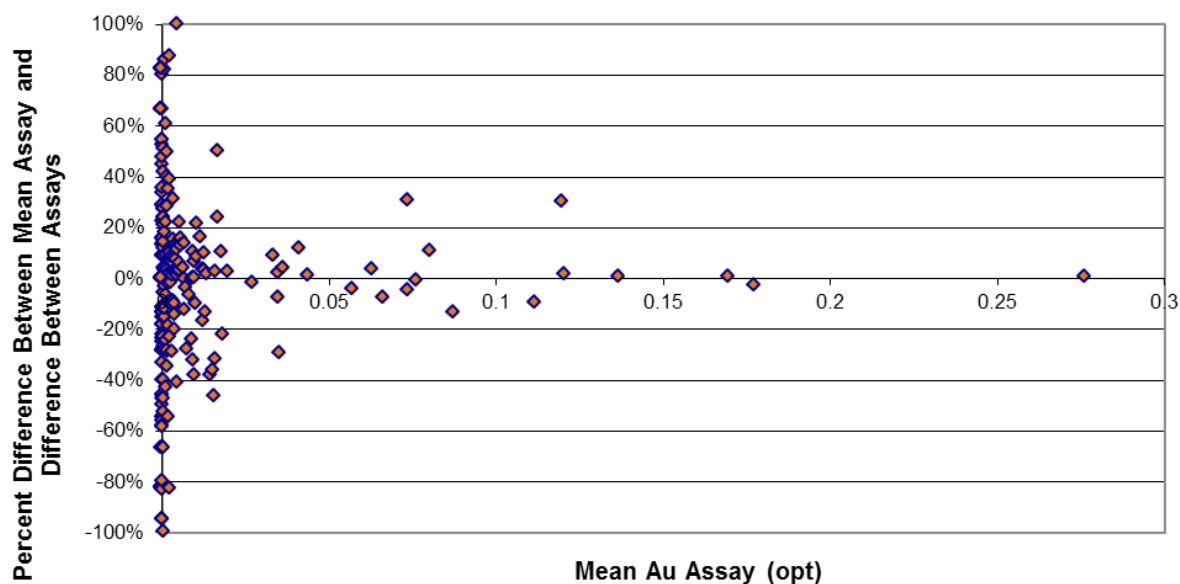
Out of a total of 2,292 samples, ALS took second splits of 284 final pulps (12%) and re-assayed them as pulp duplicates. Results showed an acceptable correlation between the gold pulp duplicates for this type of deposit (Figure 12-2). A Thompson-Howarth plot illustrated in Figure 12-3 and Figure 12-4 serves to highlight the high nugget effect of the Fuller deposit, indicating that near the open pit cut-off grade of 0.015 opt Au, an analytical precision of only  $\pm 40\%$  can be expected. RPA has converted all analytical results from parts per million (ppm) to ounces per ton (opt).

**FIGURE 12-2 FULLER PULP DUPLICATE SAMPLES - 2009-2012**

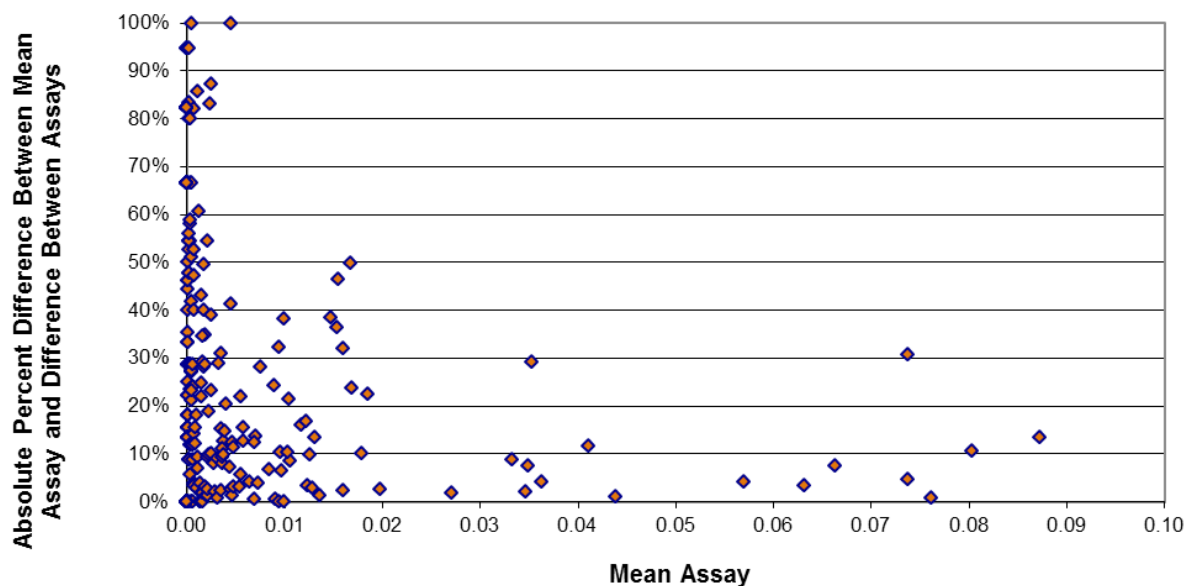


**FIGURE 12-3 FULLER PULP DUPLICATE SAMPLES – 2009-2012**

**ALS 2009-2012 PULP DUPLICATE THOMPSON-HOWARTH PLOT**



**FIGURE 12-4 ALS 2009-2012 PULP DUPLICATE RESULTS SHOWING MODIFIED THOMPSON-HOWARTH PLOT BELOW 0.10 OPT**



Lexam has not incorporated field or coarse reject duplicates into the Fuller Property QA/QC program.

It is RPA's opinion that Lexam should incorporate field and coarse duplicates into the Fuller QA/QC Program. RPA recommends that field and coarse reject duplicates be taken in the future and submitted to the primary laboratory for analysis. If practicable, duplicates should be chosen to represent the range of grades expected and for a better representation of the precision. Field, coarse reject, and pulp duplicates will provide information about the precision at three different stages in the sampling stream.

### **CHECK SAMPLES**

Check samples consist of second splits of the final prepared pulverized samples routinely analyzed by the primary laboratory (ALS) and resubmitted to a secondary laboratory (Expert) under a different sample number. These samples are used to assess the assay accuracy of the primary laboratory relative to the secondary laboratory.

Lexam's QA/QC protocol calls for check samples to be taken at a rate of one in every ten to twenty samples and submitted to a secondary laboratory. RPA received the results for 181 duplicate pairs, which covered drilling completed from 2009 to 2012. There are no check samples for drilling completed prior to 2009.

Table 12-1 summarizes the statistics for gold check assay pairs. After removing a single outlier pair, the results from the external check assays indicate good correlation for drilling completed from 2009-2012.

**TABLE 12-1 CHECK SAMPLE SUMMARY FOR GOLD**  
**Lexam VG Gold Inc. – Fuller Property**

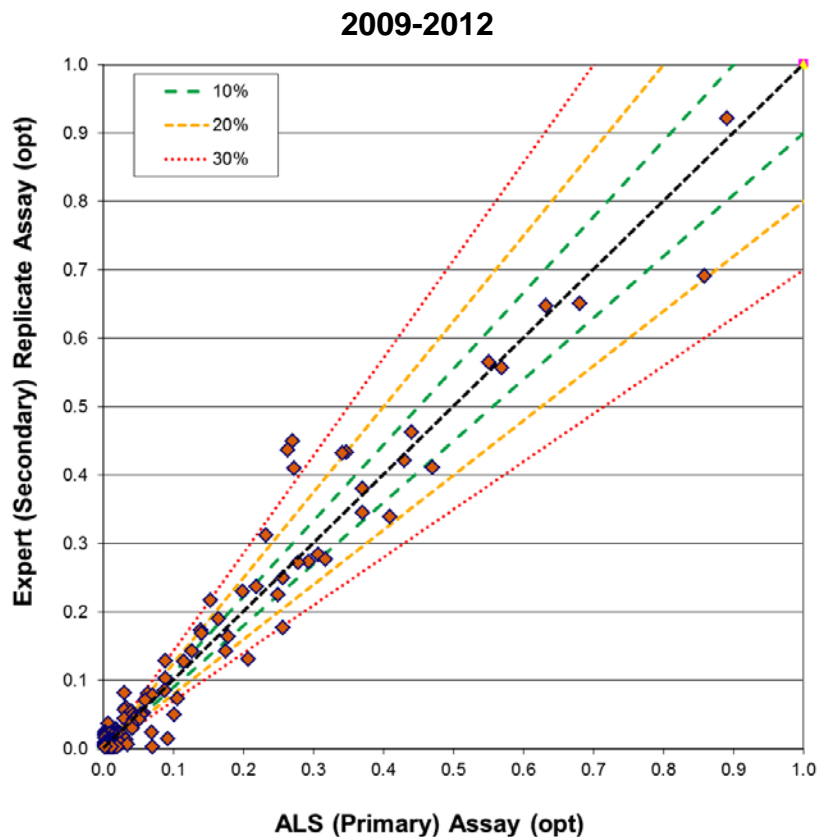
| Item                       | 2009-2012        |                       |
|----------------------------|------------------|-----------------------|
|                            | Primary<br>(ALS) | Secondary<br>(Expert) |
| Number of Samples > DL (N) | 180              | 180                   |
| Number of assays removed   | 1                | 1                     |
| Mean Assay (opt)           | 0.308            | 0.322                 |
| Maximum Assay (opt)        | 5.398            | 5.990                 |
| Minimum Assay (opt)        | 0.003            | 0.003                 |
| Median Assay (opt)         | 0.019            | 0.019                 |
| Variance                   | 0.676            | 0.792                 |
| Standard Deviation         | 0.822            | 0.890                 |
| Coefficient of Variation   | 2.674            | 2.765                 |
| Correlation Coefficient    |                  | 0.988                 |
| % Difference Between Means |                  | -4.6%                 |

Gold check assay pairs have good correlation coefficients for both sets of data (0.988) and the percent difference between means is within acceptable limits.

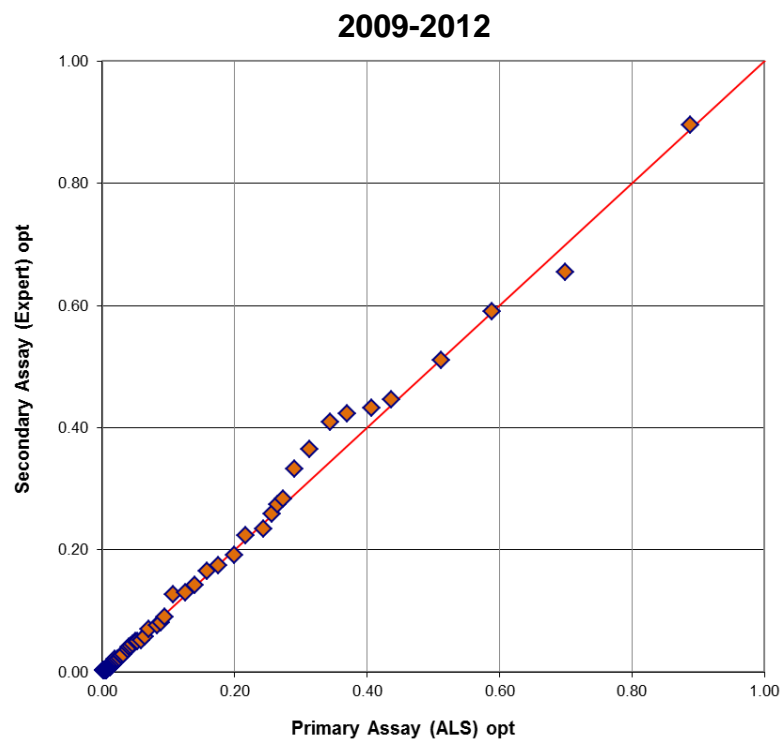
A scatter plot and a quantile-quantile (Q-Q) plot for the gold pulp assay check pairs are shown in Figures 12-5 and 12-6 respectively. In general, there is good correlation and no obvious bias in assay results. As expected in a high nugget deposit such as Fuller, low gold grades show poor reproducibility (Figure 12-7).



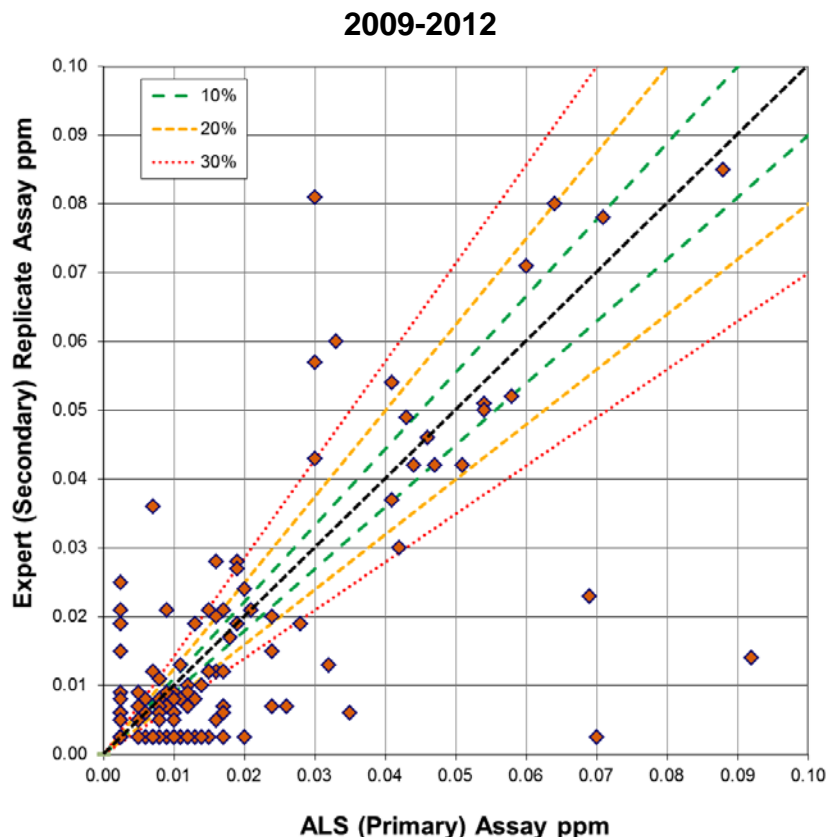
**FIGURE 12-5 SCATTER PLOT FOR GOLD CHECK SAMPLES FOR ASSAYS  
<1.0 OPT**



**FIGURE 12-6 Q-Q PLOT FOR GOLD CHECK SAMPLES**



**FIGURE 12-7 SCATTER PLOT FOR GOLD CHECK SAMPLES FOR ASSAYS  
<0.1 OPT**



It is RPA's opinion that Lexam's program of check sampling for the Fuller Property is rigorous and meets industry standards. Results of the check sampling for the 2009-2012 drilling programs show acceptable correlation between the primary and secondary laboratories for pulps from a high nugget gold deposit.

## PAYMASTER PROPERTY

Tudorel Ciuculescu, P.Geo., Senior Geologist with RPA, visited the Paymaster Property on November 29-30, 2012. During the site visit, RPA inspected the Paymaster Property and located drill collars VGP-10-86 and VGP-10-85. There was no drilling on the Property at the time of the site visit.

RPA carried out a geological core review of lithology, mineralization and sampling, checking against drill logs of the following drill holes: VGP-09-12, VGP-09-21, VGP-09-31, VGP-09-45,

VGP-10-74, VGP-10-83, and VGP-10-95. During the core review, no notable discrepancies were found: footage tags were placed in the correct locations in the core boxes, samples were clearly and accurately marked, and core boxes were clearly labelled.

Lexam provided a GEMS project containing drill hole data for the Paymaster Property and adjacent properties. The drilling database contained recent records from 1986 to 2012, as well as older records from 1920s and 1950s.

RPA compared assay results from the older records, related to the No. 2, 3 and 5 shafts, against assays from recent drill holes. The drill holes were composited from collar to toe at fixed five foot intervals. Composites from older drill holes were paired with composites from recent drill holes based on distance between composite midpoints. Pairs situated within zero to three feet and pairs situated within three to six feet showed an average absolute percent difference of more than 30%. Based on the low similarity between the two groups of data, RPA decided to use only the recent drill holes for the resource estimate. The previous resource estimate for the Paymaster Property was also based entirely on the recent drilling.

RPA flagged and selected recent Paymaster holes, drilled from 1986 to 2012, for geological modelling and resource estimate. RPA reviewed the collar locations, downhole deviation surveys, lithology, and assay tables. Visual checks against topography and older maps were made for collars, while the deviation surveys were compared on screen with stope intersects and underground openings crossed by the hole. Tools available in Gemcom GEMS were used for database table validation.

RPA reviewed the resource database that formed the basis of the Mineral Resource estimate presented in this Technical Report. This included results from the QA/QC Program and assay certificates for drill hole samples by VG Gold Corp. from 2009 to 2012. Since the previous resource estimate in 2010, 24 new drill holes have been completed and used in the current estimate.

## **MANUAL DATABASE VERIFICATION**

Lexam provided a GEMS project containing drill hole data for the Paymaster Property and adjacent properties. RPA flagged and selected Paymaster drill holes for geological modelling and resource estimation.

RPA reviewed the collar locations, downhole deviation surveys, lithology, and assay tables. Visual checks against topography and older maps were made for collars, while the deviation surveys were compared on screen with stope intersects and underground openings crossed by the hole. Tools available in Gemcom GEMS were used for database table validation.

The assay table verification included comparison of database values against laboratory certificates. Gold assay values from 124 assay certificates for Lexam drilling from 2009 to 2012, representing approximately 25% of the database, were matched and no issues were identified.

### **INDEPENDENT ASSAYS OF DRILL CORE**

RPA did not collect drill hole core samples for independent assay testing during the site visit. Historical mining in the Paymaster No. 2 and 3 Shaft area confirms that the deposit contains mineralization.

### **QUALITY ASSURANCE AND QUALITY CONTROL**

Quality assurance (QA) consists of evidence to demonstrate that the assay data has precision and accuracy within generally accepted limits for the sampling and analytical method(s) used in order to have confidence in future resource estimations. Quality control (QC) consists of procedures used to ensure that an adequate level of quality is maintained in the process of sampling, preparing, and assaying the exploration drilling samples. In general, QA/QC Programs are designed to prevent or detect contamination and allow assaying (analytical) precision (repeatability) and accuracy to be quantified. In addition, a QA/QC Program can disclose the overall sampling–assaying variability of the sampling method itself.

QA/QC protocols include insertion into the sample stream of certified reference materials of various grades, blanks, field sample duplicates, coarse rejects duplicates, and pulp replicates.

For the Paymaster Property QA/QC Program, Lexam uses ALS in Val D'Or, Quebec, an ISO 17025 Accredited Testing Laboratory, as the primary laboratory. Laboratoire Expert Inc. (Expert) in Rouyn-Noranda, Quebec, is used as the secondary laboratory.

RPA reviewed all assay certificates available from 2009-2012 and identified 1,006 ALS internal pulp duplicate pairs. RPA removed 170 pairs that were below detection limit from this selection and reviewed the results of 836 pairs.

### **CERTIFIED REFERENCE MATERIAL (STANDARDS)**

Results of the regular submission of certified reference materials (CRM or standards) are used to identify problems with specific sample batches and long-term biases associated with the regular assay laboratory. Lexam has not incorporated the use of CRMs into its QA/QC Program. Lexam monitors ALS's internal quality control CRM results. RPA reviewed this data and found the results acceptable.

### **BLANKS**

Contamination and sample numbering errors are assessed through blank samples, on which the presence of the elements undergoing analysis has been confirmed to be below the corresponding detection limit. A significant level of contamination is identified when the blank sample yields values exceeding three times detection limit of the analyzed element. In order to be effective, the matrix of the blank sample should be similar to the matrix of the material being routinely analyzed and inserted at a rate of 5%, or one per batch of twenty samples. Lexam's QA/QC protocol does not include blank sample insertion in the sample stream.

Lexam monitors ALS's internal quality control blank results. RPA reviewed this data and found the results acceptable.

### **DUPLICATES**

Field duplicates assess the variability introduced by sampling the same interval. The duplicate splits are bagged separately with separate sample numbers so as to be blind to the sample preparation laboratory. The duplicates contain all levels of sampling and analytical error and are used to calculate field, sample preparation, and analytical precision. They are also a check on possible sample over selection; that is, the sampler has either purposely or

inadvertently sampled the geological material (usually drill core) so as to preferentially place visible mineralization in the sample bag going for analysis.

Coarse duplicates (or coarse reject duplicates) are duplicate samples taken immediately after the first crushing and splitting step. The coarse duplicates will inform about the sub-sampling precision. In order to ensure repeatability conditions, both the original and the coarse duplicate samples should be submitted to the same laboratory (primary laboratory), in the same sample batch and under a different sample number, so that pulverization and assaying follow the same procedure.

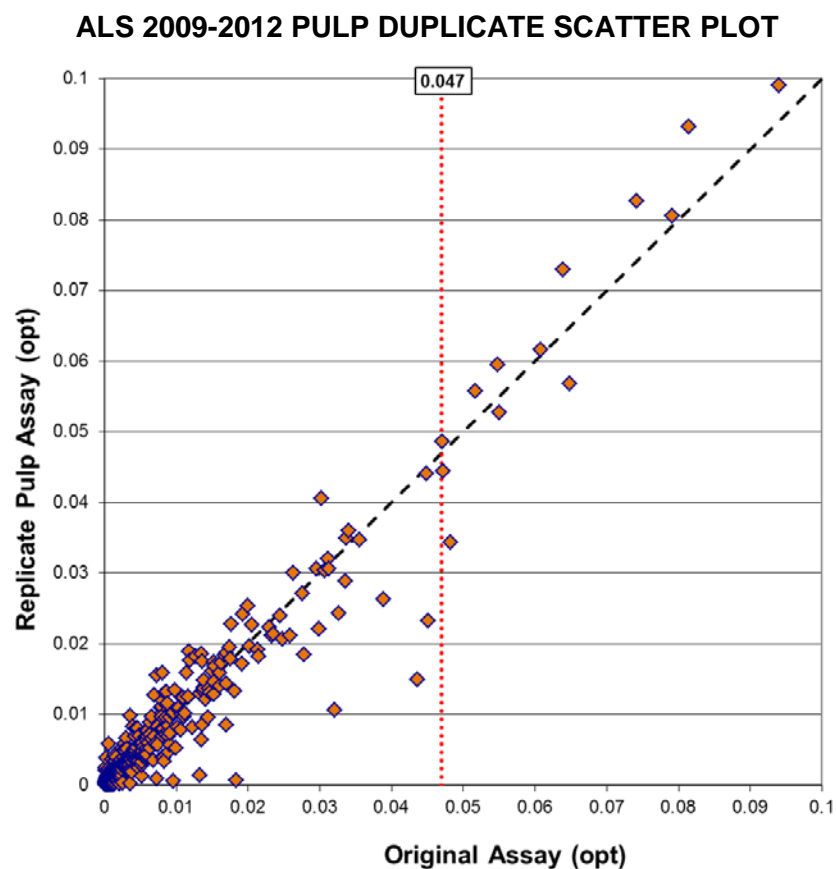
Pulp duplicates consist of second splits of final prepared pulverized samples, analyzed by the same laboratory as the original samples under different sample numbers. The pulp duplicates are indicators of the analytical precision, which may also be affected by the quality of pulverization and homogenization (i.e., sub-sampling variance introduced during pulp preparation from splits of the original coarse reject material).

One component of ALS's QA/QC Program is the regular measurement of laboratory duplicate samples. Lexam has relied on the results of ALS's pulp duplicates to ensure that analytical precision meets project requirements.

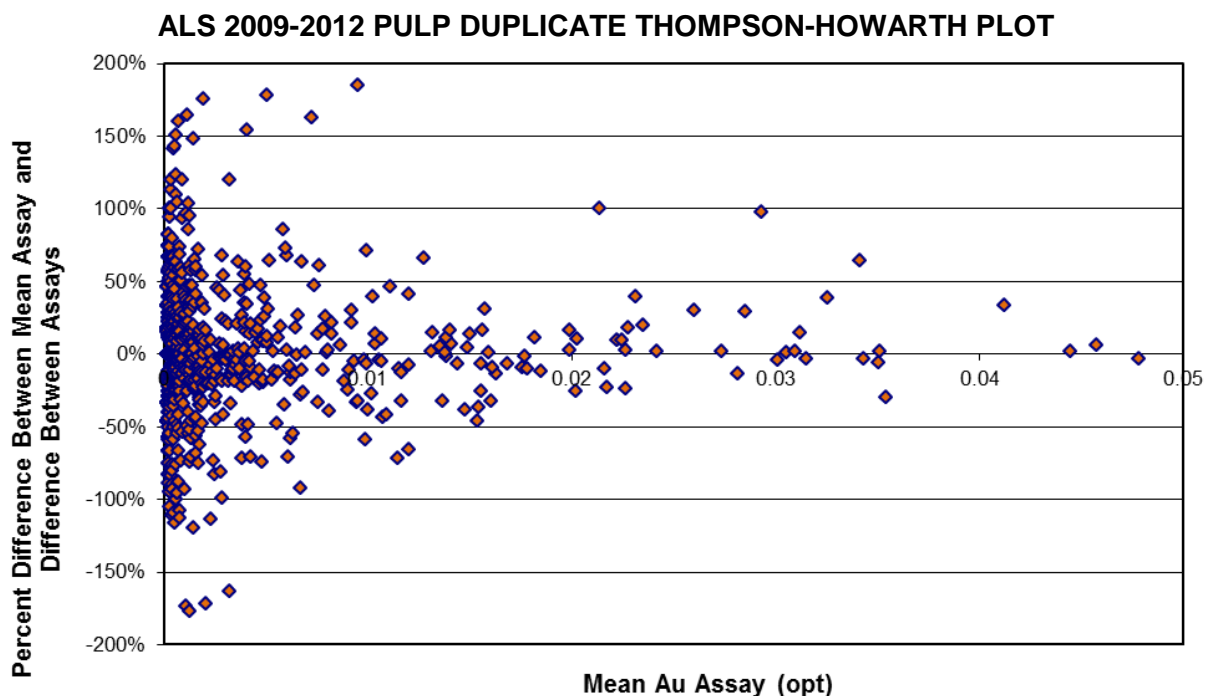
Out of a total of 10,564 samples, ALS took second splits of 1,008 final pulps (9.5%) and re-assayed them as pulp duplicates. Results showed an acceptable correlation between the gold pulp duplicates for this type of deposit (Figure 12-8). A Thompson-Howarth plot illustrated in Figures 12-9 and 12-10 serves to highlight the high nugget effect of the Paymaster deposit, indicating that near the open pit cut-off grade of 0.015 opt Au, an analytical precision of only  $\pm 40\%$  can be expected. RPA has converted all analytical results from parts per million (ppm) to ounces per ton (opt).



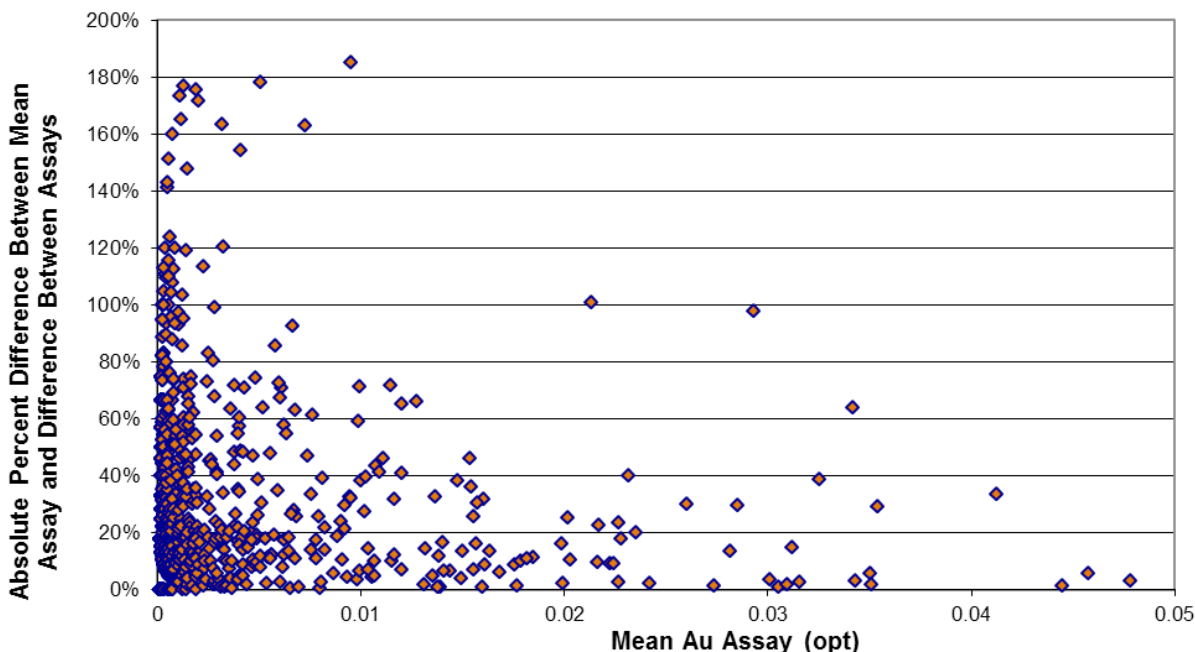
**FIGURE 12-8 PAYMASTER PULP DUPLICATE SAMPLES - 2009-2012**



**FIGURE 12-9 PAYMASTER PULP DUPLICATE SAMPLES – 2009-2012**



**FIGURE 12-10 ALS 2009-2012 PULP DUPLICATE RESULTS SHOWING MODIFIED THOMPSON-HOWARTH PLOT BELOW 0.10 OPT**



Lexam has not incorporated field or coarse reject duplicates into the Paymaster Property QA/QC Program.

It is RPA's opinion that Lexam should incorporate field and coarse duplicates into the Paymaster QA/QC Program. RPA recommends that field and coarse reject duplicates be taken in the future and submitted to the primary laboratory for analysis. If practicable, duplicates should be chosen to represent the range of grades expected and for a better representation of the precision. Field, coarse reject, and pulp duplicates will provide information about the precision at three different stages in the sampling stream.

## **CHECK SAMPLES**

Check samples consist of second splits of the final prepared pulverized samples routinely analyzed by the primary laboratory (ALS) and resubmitted to a secondary laboratory (Expert) under a different sample number. These samples are used to assess the assay accuracy of the primary laboratory relative to the secondary laboratory.

Lexam's QA/QC protocol calls for check samples to be taken at a rate of one in every ten to twenty samples and submitted to a secondary laboratory. RPA received the results for 425 duplicate pairs, which covered drilling completed from 2009 to 2012. There are no check samples for drilling completed prior to 2009.

Table 12-2 summarizes the statistics for gold check assay pairs. After removing a single outlier pair, the results from the external check assays indicate good correlation for drilling completed from 2009 to 2012.

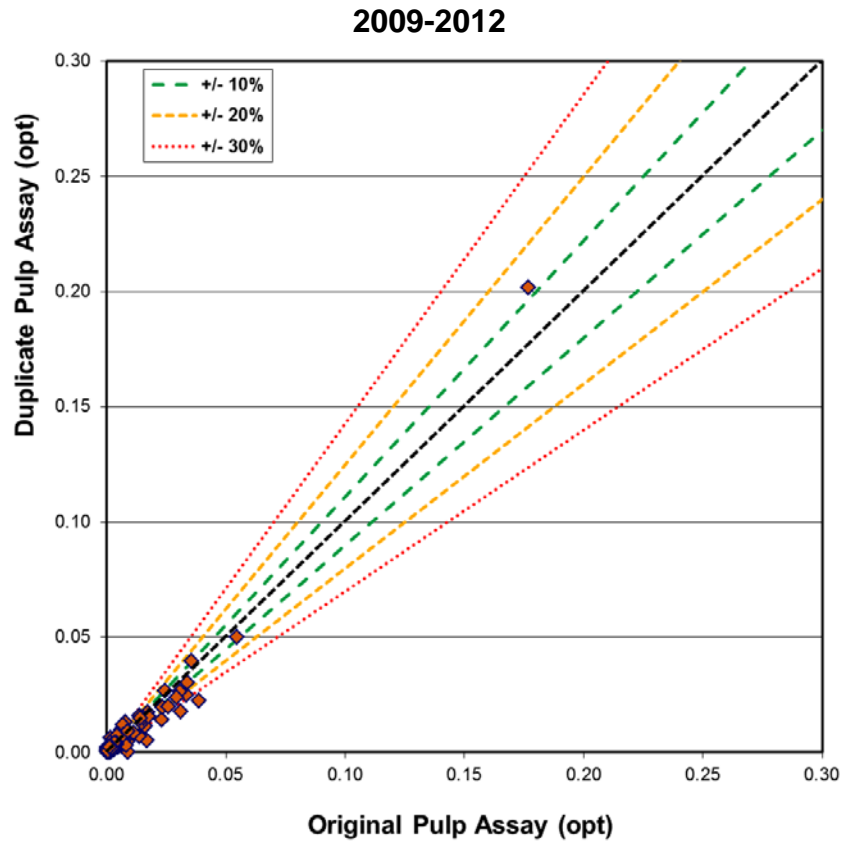
**TABLE 12-2 CHECK SAMPLE SUMMARY FOR GOLD**  
**Lexam VG Gold Inc. – Paymaster Property**

| Item                       | 2009-2012        |                       |
|----------------------------|------------------|-----------------------|
|                            | Primary<br>(ALS) | Secondary<br>(Expert) |
| Number of Samples          | 426              | 426                   |
| Number of assays removed   | 1                | 1                     |
| Mean Assay (opt)           | 0.0040           | 0.0035                |
| Maximum Assay (opt)        | 0.1770           | 0.2018                |
| Minimum Assay (opt)        | 0.0001           | 0.0001                |
| Median Assay (opt)         | 0.0007           | 0.0006                |
| Variance                   | 0.0001           | 0.0001                |
| Standard Deviation         | 0.0117           | 0.0118                |
| Coefficient of Variation   | 2.9386           | 3.3686                |
| Correlation Coefficient    |                  | 0.968                 |
| % Difference Between Means |                  | 11.9%                 |

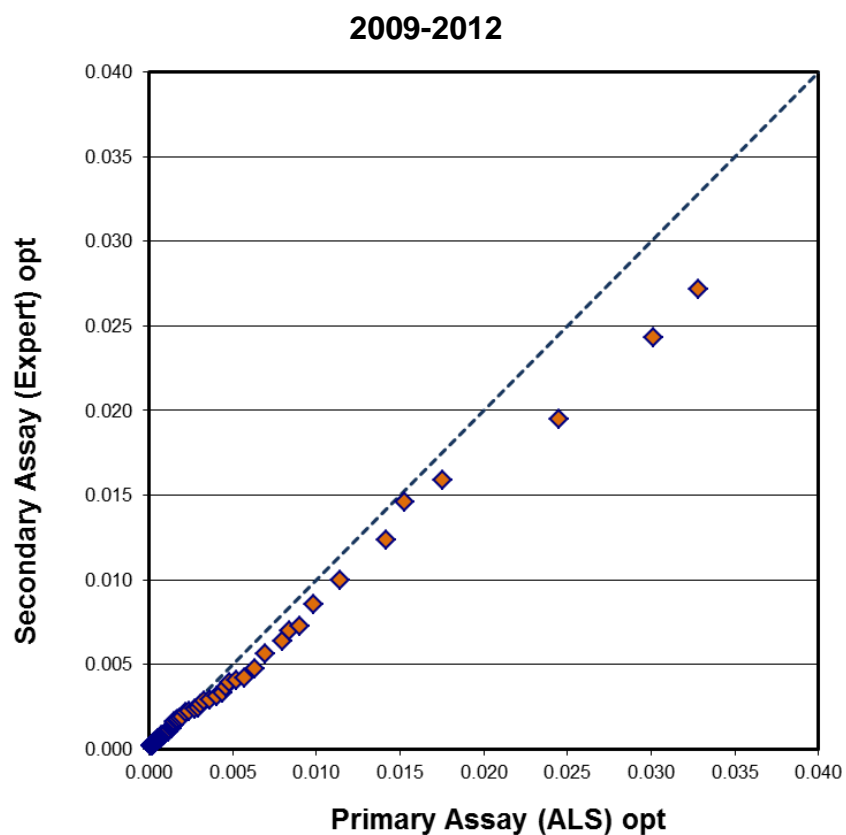
Summary statistics suggest that gold check assay pairs have good correlation coefficients for both sets of data (0.968) and the percent difference between means is within acceptable limits. It is RPA's opinion, however, that the laboratory check samples did not successfully sample an appropriate grade range for the Paymaster deposit. The mean assay grade of Paymaster check samples is 0.004 opt, whereas the cut-off grade for the Paymaster open pit is 0.015 opt and the average grade of the deposit is 0.047 opt.

A scatter plot and a quantile-quantile (Q-Q) plot for the gold pulp assay check pairs are shown in Figures 12-11 and 12-12 respectively. As expected in a high nugget deposit such as Paymaster, the low gold grades show poor reproducibility (Figure 12-13). Although there is an apparent low bias in the ALS gold assay data (Figure 12-12), the assay ranges are not representative of the Paymaster deposit.

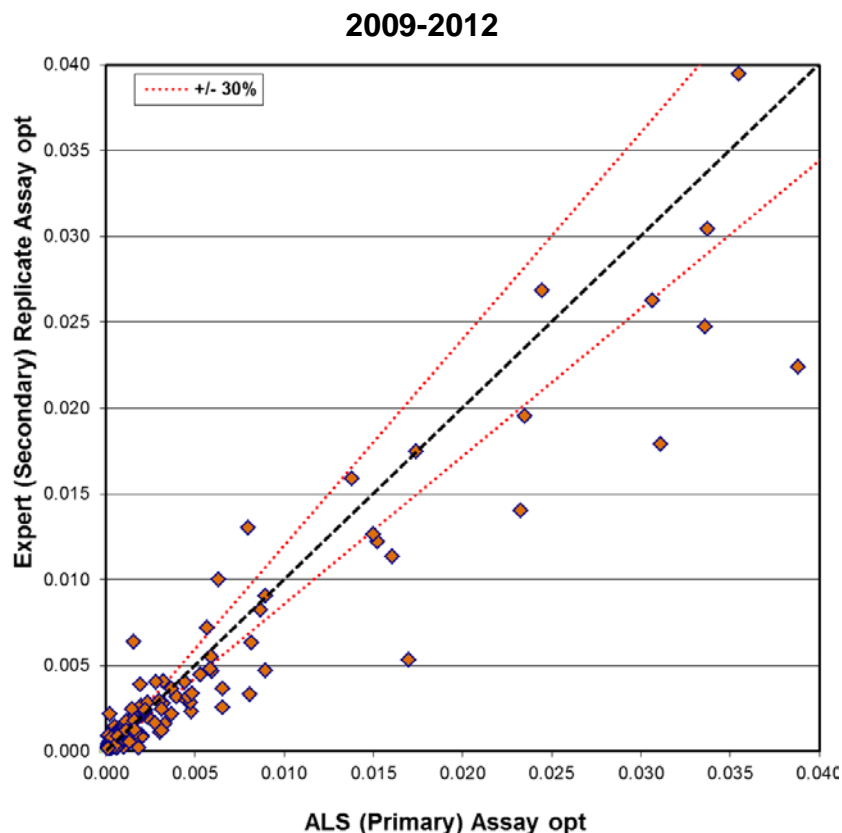
**FIGURE 12-11 SCATTER PLOT FOR GOLD CHECK SAMPLES FOR  
ASSAYS <0.3 OPT**



**FIGURE 12-12 Q-Q PLOT FOR GOLD CHECK SAMPLES**



**FIGURE 12-13 SCATTER PLOT FOR GOLD CHECK SAMPLES FOR ASSAYS <0.04 OPT**



In RPA's opinion, Lexam's program of check sampling on the Paymaster Property meets industry standards. Results of the check sampling for the 2009-2012 drilling programs show acceptable correlation between the primary and secondary laboratories for pulps from a high nugget gold deposit, however, the grade range is not representative of the Paymaster deposit.

## DAVIDSON TISDALE

### SITE VISIT AND DUE DILIGENCE SAMPLING

The Davidson Tisdale Property was visited by Mr. Antoine Yassa, P.Geo., an independent Qualified Person as defined by National Instrument NI 43-101 Standards of Disclosure for Mineral Projects, on November 6 and 7, 2012. Fifty-three (53) samples were collected from 20 holes by sawing a ¼ split of the half core remaining in the box. The samples were documented, bagged, and sealed with packing tape and were taken by Mr. Yassa to Dicom



in Rouyn-Noranda, QC. From there, the samples were shipped to the offices of P&E in Brampton, ON, and sent by courier to AGAT Laboratories in Mississauga, ON for analysis. Gold was analyzed using fire assay on a 30 g aliquot with an AAS finish. Samples yielding values greater than 10 g/t Au were re-assayed and quantitatively determined using the gravimetric method.

AGAT Laboratories employs a quality assurance system to ensure the precision, accuracy and reliability of all results. The best practices have been documented and are consistent with:

- The International Organization for Standardization's ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories" and the ISO 9000 series of Quality Management standards".
- All principles of Total Quality Management (TQM).
- All applicable safety, environmental and legal regulations and guidelines.
- Methodologies published by the ASTM, NIOSH, EPA and other reputable organizations.
- The best practices of other industry leaders.

At no time, prior to the time of sampling, were any employees or other associates of Lexam advised as to the location or identification of any of the samples to be collected.

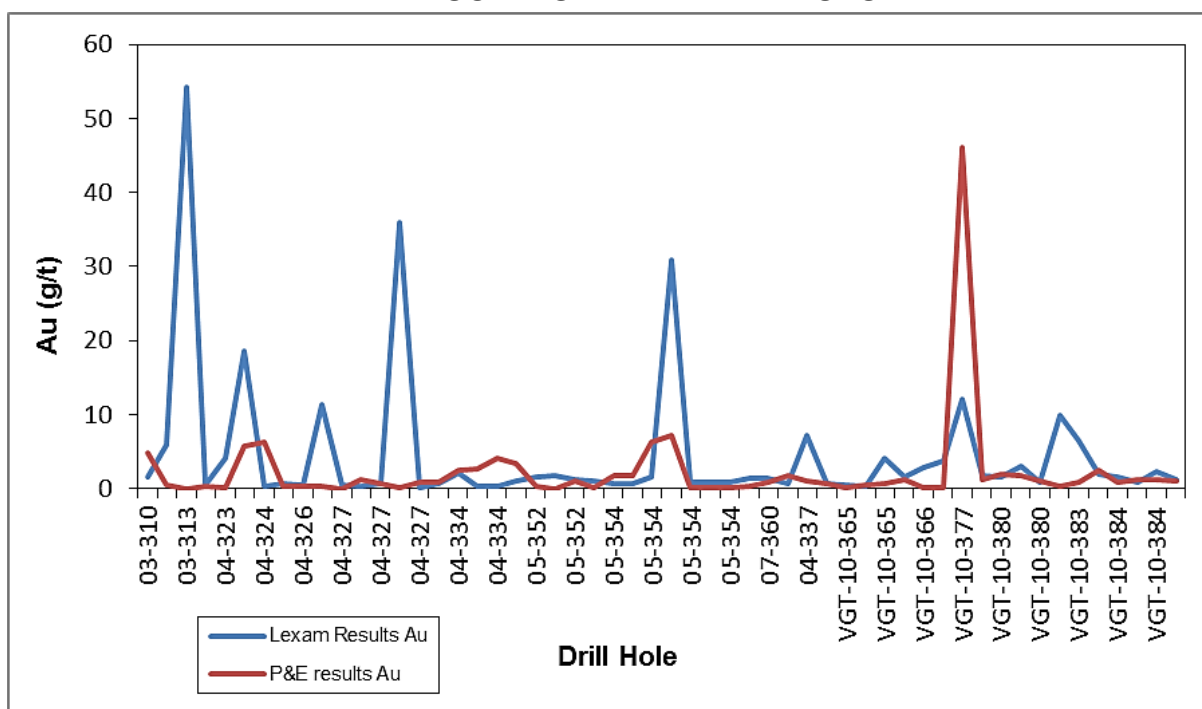
Lexam did not insert any of their own QC samples, and P&E felt that in order to validate the earlier drill holes in the database, a larger than normal number of due diligence samples would need to be collected. Holes drilled in years 2003 through 2010 were sampled by Mr. Yassa.

Prior to the 2010 drilling, the most recent drill programs on the Davidson Tisdale property were from 2003 to 2005 inclusive, and Laboratoire Expert ("Expert") of Rouyn-Noranda, QC was the principal lab for these earlier drill programs. Expert is registered under ISO 9001:2000 quality standard and participates in the CANMET PTP-MAL Laboratory Proficiency testing.

An attempt was made to procure the lab's internal QC for this drilling, however in spite of the lab inserting their own QC samples, no separate QC reports had been requested by Vedron Gold for the years 2003 to 2005.

A comparison of the P&E independent sample verification results versus the original assay results for gold can be seen in Figures 12-14 and 12-15. Figure 12-14 displays all values received, while Figure 12-5 displays only the lower range of values from 0 to 10 g/t Au in order to reveal detail at the lower grades. The P&E results demonstrate that the results obtained and reported by Lexam were reproducible to a certain degree; however precision is poor due to the difference in sample size and the natural inhomogeneous distribution of gold, (nugget effect) in the deposit.

**FIGURE 12-14 P&E DUE DILIGENCE DRILL CORE SAMPLING FOR GOLD AT DAVIDSON TISDALE: ALL VALUES**



The graph displays the concentration of gold (Au) in grams per tonne (g/t) for various drill holes. The Lexam Results (blue line) show significantly higher and more volatile concentrations compared to the P&E results (red line). The P&E results are generally lower and more consistent, with a notable peak around 7 g/t for drill hole 05-354.

| Drill Hole | Lexam Results Au (g/t) | P&E results Au (g/t) |
|------------|------------------------|----------------------|
| 03-310     | 1.5                    | 4.8                  |
| 03-311     | 6.0                    | 0.5                  |
| 03-312     | 10.0                   | 0.2                  |
| 03-313     | 10.0                   | 0.5                  |
| 03-314     | 10.0                   | 0.2                  |
| 04-323     | 10.0                   | 0.5                  |
| 04-324     | 10.0                   | 6.3                  |
| 04-325     | 10.0                   | 0.5                  |
| 04-326     | 10.0                   | 0.5                  |
| 04-327     | 10.0                   | 0.2                  |
| 04-328     | 10.0                   | 1.3                  |
| 04-329     | 10.0                   | 0.2                  |
| 04-330     | 10.0                   | 0.5                  |
| 04-331     | 10.0                   | 0.8                  |
| 04-332     | 10.0                   | 2.3                  |
| 04-333     | 10.0                   | 2.8                  |
| 04-334     | 10.0                   | 4.2                  |
| 04-335     | 10.0                   | 3.2                  |
| 05-352     | 10.0                   | 0.2                  |
| 05-353     | 10.0                   | 1.8                  |
| 05-354     | 10.0                   | 1.8                  |
| 05-355     | 10.0                   | 6.3                  |
| 05-356     | 10.0                   | 7.2                  |
| 05-357     | 10.0                   | 0.2                  |
| 05-358     | 10.0                   | 0.2                  |
| 05-359     | 10.0                   | 0.5                  |
| 05-360     | 10.0                   | 0.8                  |
| 05-361     | 10.0                   | 1.5                  |
| 05-362     | 10.0                   | 1.8                  |
| 05-363     | 10.0                   | 0.5                  |
| 05-364     | 10.0                   | 0.2                  |
| 05-365     | 10.0                   | 0.5                  |
| 05-366     | 10.0                   | 0.2                  |
| 05-367     | 10.0                   | 0.5                  |
| 05-368     | 10.0                   | 0.8                  |
| 05-369     | 10.0                   | 1.2                  |
| 05-370     | 10.0                   | 0.2                  |
| 05-371     | 10.0                   | 0.2                  |
| 05-372     | 10.0                   | 0.5                  |
| 05-373     | 10.0                   | 0.2                  |
| 05-374     | 10.0                   | 0.5                  |
| 05-375     | 10.0                   | 0.2                  |
| 05-376     | 10.0                   | 0.5                  |
| 05-377     | 10.0                   | 0.2                  |
| 05-378     | 10.0                   | 0.5                  |
| 05-379     | 10.0                   | 0.2                  |
| 05-380     | 10.0                   | 0.5                  |
| 05-381     | 10.0                   | 0.2                  |
| 05-382     | 10.0                   | 0.5                  |
| 05-383     | 10.0                   | 0.2                  |
| 05-384     | 10.0                   | 0.5                  |
| 05-385     | 10.0                   | 0.2                  |
| 05-386     | 10.0                   | 0.5                  |
| 05-387     | 10.0                   | 0.2                  |
| 05-388     | 10.0                   | 0.5                  |
| 05-389     | 10.0                   | 0.2                  |
| 05-390     | 10.0                   | 0.5                  |
| 05-391     | 10.0                   | 0.2                  |
| 05-392     | 10.0                   | 0.5                  |
| 05-393     | 10.0                   | 0.2                  |
| 05-394     | 10.0                   | 0.5                  |
| 05-395     | 10.0                   | 0.2                  |
| 05-396     | 10.0                   | 0.5                  |
| 05-397     | 10.0                   | 0.2                  |
| 05-398     | 10.0                   | 0.5                  |
| 05-399     | 10.0                   | 0.2                  |
| 05-400     | 10.0                   | 0.5                  |
| 05-401     | 10.0                   | 0.2                  |
| 05-402     | 10.0                   | 0.5                  |
| 05-403     | 10.0                   | 0.2                  |
| 05-404     | 10.0                   | 0.5                  |
| 05-405     | 10.0                   | 0.2                  |
| 05-406     | 10.0                   | 0.5                  |
| 05-407     | 10.0                   | 0.2                  |
| 05-408     | 10.0                   | 0.5                  |
| 05-409     | 10.0                   | 0.2                  |
| 05-410     | 10.0                   | 0.5                  |
| 05-411     | 10.0                   | 0.2                  |
| 05-412     | 10.0                   | 0.5                  |
| 05-413     | 10.0                   | 0.2                  |
| 05-414     | 10.0                   | 0.5                  |
| 05-415     | 10.0                   | 0.2                  |
| 05-416     | 10.0                   | 0.5                  |
| 05-417     | 10.0                   | 0.2                  |
| 05-418     | 10.0                   | 0.5                  |
| 05-419     | 10.0                   | 0.2                  |
| 05-420     | 10.0                   | 0.5                  |
| 05-421     | 10.0                   | 0.2                  |
| 05-422     | 10.0                   | 0.5                  |
| 05-423     | 10.0                   | 0.2                  |
| 05-424     | 10.0                   | 0.5                  |
| 05-425     | 10.0                   | 0.2                  |
| 05-426     | 10.0                   | 0.5                  |
| 05-427     | 10.0                   | 0.2                  |
| 05-428     | 10.0                   | 0.5                  |
| 05-429     | 10.0                   | 0.2                  |
| 05-430     | 10.0                   | 0.5                  |
| 05-431     | 10.0                   | 0.2                  |
| 05-432     | 10.0                   | 0.5                  |
| 05-433     | 10.0                   | 0.2                  |
| 05-434     | 10.0                   | 0.5                  |
| 05-435     | 10.0                   | 0.2                  |
| 05-436     | 10.0                   | 0.5                  |
| 05-437     | 10.0                   | 0.2                  |
| 05-438     | 10.0                   | 0.5                  |
| 05-439     | 10.0                   | 0.2                  |
| 05-440     | 10.0                   | 0.5                  |
| 05-441     | 10.0                   | 0.2                  |
| 05-442     | 10.0                   | 0.5                  |
| 05-443     | 10.0                   | 0.2                  |
| 05-444     | 10.0                   | 0.5                  |
| 05-445     | 10.0                   | 0.2                  |
| 05-446     | 10.0                   | 0.5                  |
| 05-447     | 10.0                   | 0.2                  |
| 05-448     | 10.0                   | 0.5                  |
| 05-449     | 10.0                   | 0.2                  |
| 05-450     |                        |                      |

Lexam did not implement a QA/QC Program for any of the drilling, however they did rely upon the Expert (principal lab 2003 to 2005) and ALS (principal lab 2010) internal QC. Each of these labs implemented strict quality assurance/quality control programs. Resulting QC data for 2010 from ALS were obtained by P&E and verified for accuracy, precision and absence of contamination.

## ALS Minerals Internal Lab QC for Davidson Tisdale – 2010

In 2010, Lexam used ALS as the principal lab. There were seven different certified reference materials used at one point or another during the drill program. All standards were purchased from either Ore Research and Pty in Australia, or Rocklabs in New Zealand.

All seven standards were graphed, using the  $\pm 2$  and  $\pm 3$  standard deviation limits as warning and tolerance limits, respectively. There were 177 standards pertaining to the Davidson Tisdale holes analyzed at ALS during 2010. The standards demonstrated excellent performance, with only two failures outside the tolerance limits.

**PERFORMANCE OF BLANK MATERIAL**ALS Minerals Internal Lab Blanks for Davidson Tisdale -2010

There were 20 blank samples inserted with the samples in 2010 and all of them reported less than three times the detection limit, indicating an absence of contamination at the analytical level.

**DUPLICATE PRECISION**ALS Minerals Internal Pulp Duplicates for Davidson Tisdale – 2010

There were 233 pulp duplicates prepared at the lab for Davidson Tisdale. A filter of five times the detection limit of 0.005 g/t Au was applied, in order to get rid of values close to detection limit that would falsely influence the pulp duplicate precision. Of the 233 duplicates, only 36 were greater than five times the detection limit of 0.005 g/t Au.

The 36 pairs were plotted on a simple scatter graph, and precision was in the order of 20%, indicative of an inhomogeneity in the pulps. With so few pairs, it was not possible to obtain precision at the resource cut-off grade.

Lexam should concentrate on “fine-tuning” the sampling and assaying protocol, in order to minimize the nugget effect and improve precision at the pulp level. Components of this exercise should include evaluating the collection of a larger sample volume, crushing to a higher percentage passing -10 mesh, and using a 50 g aliquot for fire assay.

P&E declared the Davidson Tisdale data suitable for use in a mineral resource estimate.

**ENHANCEMENTS TO THE QA/QC PROGRAM**

RPA and P&E have several recommendations to enhance Lexam’s QA/QC protocol on the Timmins Properties. These include:

- Regular submission of field and coarse reject duplicate samples to the primary laboratory.
- The inclusion of at least three different grades of CRMs into the sampling stream to monitor the accuracy of analysis for potentially economic elements.
- The routine inclusion of blank samples with each batch submitted for analysis.

- Although Lexam has implemented a fairly rigorous check sample program, the expected grades of samples should be representative of the deposit.
- Implement a QA monitoring system used to detect failed batches, and in turn, identify sample batches for reanalysis.
- Lexam should concentrate on “fine-tuning” the sampling and assaying protocol, in order to minimize the nugget effect and improve precision at the pulp duplicate level. Components of this exercise should include evaluating the collection of a larger sample volume, crushing to a higher percentage passing -10 mesh, and using a 50 gram aliquot for fire assay.

Based on RPA's and P&E's data verification of the drill hole database, drill core review, and site visit, RPA is of the opinion that Lexam's Timmins Properties resource database is reliable and accurate and is suitable for Mineral Resource estimation and a PEA.

## 13 MINERAL PROCESSING AND METALLURGICAL TESTING

Historically, the mines in the Timmins camp have been prolific in the production of gold. For the Project, metallurgical testwork was done on the Buffalo Ankerite, Paymaster, Fuller, and Davidson Tisdale Properties and some historic operating data was reviewed by RPA. In 1975, the Area Metallurgical Laboratory for Pamour Mines Limited conducted some flotation plus cyanidation of the flotation concentrate on samples from “Tisdale Ankerite”. In 1987, grinding, flotation, and cyanidation testwork was done to determine if samples of Vedron mineralization were compatible with the Belmoral Mill. In 1988 and 1989, Lakefield Research (1989) conducted a series of gravity plus flotation and gravity plus cyanidation tests on samples of Vedron mineralization.

The results from the historical work that were used to estimate the gold recovery (Lakefield Research, 1989) are shown in Table 13-1. For purposes of this evaluation, the data from testwork that included gravity concentration and cyanidation of the gravity tailings was used, however, the results from tests that utilized gravity, flotation, and cyanidation of the flotation concentrate were very similar so the results would not change appreciably.

**TABLE 13-1 HISTORICAL METALLURGICAL TEST RESULTS**  
**Lexam VG Gold Inc. – Lexam VG Project**

| Test    | Sample    | P <sub>80</sub><br>(µm) | % -200<br>mesh | Au<br>Extraction<br>(%) | Grade<br>(g/t Au) |
|---------|-----------|-------------------------|----------------|-------------------------|-------------------|
| 1       | Fuller    | 54                      | 90.1           | 85.65                   | 27.4              |
| Comp B  | Fuller    | 55                      | 90.0           | 89.10                   | 4.5               |
| Average | Fuller    |                         |                | 88.0                    |                   |
| A-1     | Fuller HW | 147                     | 60.0           | 95.50                   | 16.5              |
| A-2     | Fuller HW | 147                     | 60.0           | 96.30                   | 13.4              |
| 3-1     | Fuller HW | 135                     | 66.5           | 97.60                   | 49.7              |
| Average | Fuller HW |                         |                | 97.0                    |                   |

There is little information about where the samples were taken for the historical work so it is not possible for RPA to provide an opinion as to whether they were representative or not.

In 2013, five samples were submitted to SGS Canada for confirmation testing. Samples from Buffalo Ankerite South and North and Paymaster were received in July 2013. Samples from Fuller and Davidson Tisdale were received in November 2013. Table 13-2 summarizes the results from the 2013 testing program conducted by SGS (2014.)

**TABLE 13-2 2013 METALLURGICAL TEST RESULTS**  
**Lexam VG Gold Inc. – Lexam VG Project**

| <b>Deposit</b>         | <b>Gravity Recovery</b> | <b>Size (µm)</b> | <b>Cyanidation Extraction</b> | <b>Total Recovery</b> | <b>Estimated Recovery</b> |
|------------------------|-------------------------|------------------|-------------------------------|-----------------------|---------------------------|
| Buffalo Ankerite South | 17.7%                   | 149              | 86.6%                         | 89.0%                 | 93.7%                     |
|                        | 17.7%                   | 82               | 92.4%                         | 93.7%                 |                           |
| Buffalo Ankerite North | 13.5%                   | 103              | 88.9%                         | 90.4%                 | 94.2%                     |
|                        | 13.5%                   | 68               | 93.3%                         | 94.2%                 |                           |
| Paymaster              | 13.6%                   | 131              | 73.2%                         | 76.8%                 | 91.8%                     |
|                        | 13.6%                   | 74               | 90.5%                         | 91.8%                 |                           |
| Fuller                 | 37.0%                   | 135              | 79.7%                         | 87.2%                 | 88.0%                     |
|                        | 37.0%                   | 65               | 85.3%                         | 90.7%                 |                           |
| Davidson Tisdale       | 24.2%                   | 137              | 94.8%                         | 96.1%                 | 93.0%                     |
|                        | 24.2%                   | 68               | 98.0%                         | 98.5%                 |                           |

For purpose of this PEA, the results of the tests conducted at the finer grind sizes were used to estimate the gold recovery because the total recoveries were higher and the assumption was made that a toll mill will be able to meet the 75 µm grinding criteria. If a toll mill is selected that cannot grind the material this fine, the recoveries will need to be adjusted accordingly. Table 13-3 summarizes the recovery estimates used for this PEA.

**TABLE 13-3 2013 METALLURGICAL TEST RESULTS**  
**Lexam VG Gold Inc. – Lexam VG Project**

| <b>Deposit</b>         | <b>Au Extraction</b> | <b>Source</b>        |
|------------------------|----------------------|----------------------|
| Buffalo Ankerite South | 93.7%                | SGS 14249-001        |
| Buffalo Ankerite North | 94.2%                | SGS 14249-001        |
| Paymaster              | 91.8%                | SGS 14249-001        |
| Fuller                 | 89.0%                | Historical           |
| Davidson Tisdale       | 92.0%                | Average Excluding HW |

The more recent data for Fuller and Davidson Tisdale indicates that the recovery could be somewhat higher than the recovery used in the cash flow analysis. The test results are consistent with the results published by Goldcorp for their Porcupine Mine which indicates



that the average gold recovery was 91% in 2011, 93% in 2012 and 94% in 2013 (Goldcorp, 2014.)

A comparison between the head grades for the samples tested in 2013 and the LoM head grade for the mine production schedule are provided in Table 13-4.

**TABLE 13-4 2013 METALLURGICAL TEST RESULTS**  
**Lexam VG Gold Inc. – Lexam VG Project**

| <b>Deposit</b>         | <b>LoM Head<br/>g/t Au</b> | <b>Calculated Head<br/>g/t Au</b> |
|------------------------|----------------------------|-----------------------------------|
| Buffalo Ankerite South | 2.89                       | 2.36                              |
| Buffalo Ankerite North | 2.23                       | 4.15                              |
| Paymaster              | 1.88                       | 2.31                              |
| Fuller                 | 1.84                       | 1.68                              |
| Davidson Tisdale       | 2.71                       | 1.23                              |

The comparison shows that the head grades of the samples used for the metallurgical testwork vary significantly from the LoM head grades for the Project with the exception of the Fuller sample. This indicates that the samples are not representative of the material that will be mined.

Figures 13-1 and 13-2 indicate the composite location for each metallurgical sample. For comparison purposes, the final pit designs generated for the Project are also shown. These figures show that, with the exception of Davidson Tisdale, the samples were taken from within the final pits. The samples should be indicative of the material that will be mined, however, the samples are not representative of the overall areas and provide no indication of the variability that may be encountered. Figure 13-2 shows that the sample tested for Davidson Tisdale was not taken from within the expected mining area, thus it may not be representative of the material mined. For future studies, it is important that representative samples be selected to conduct the metallurgical testing.



Figure 13-1

### **Lexam VG Gold Inc.**

***Buffalo Ankerite, Fuller, Paymaster,  
Gold Deposits***

*Porcupine Mining Division  
North-Eastern Ontario, Canada  
Metallurgical Sample Locations*

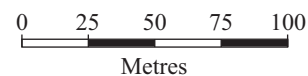
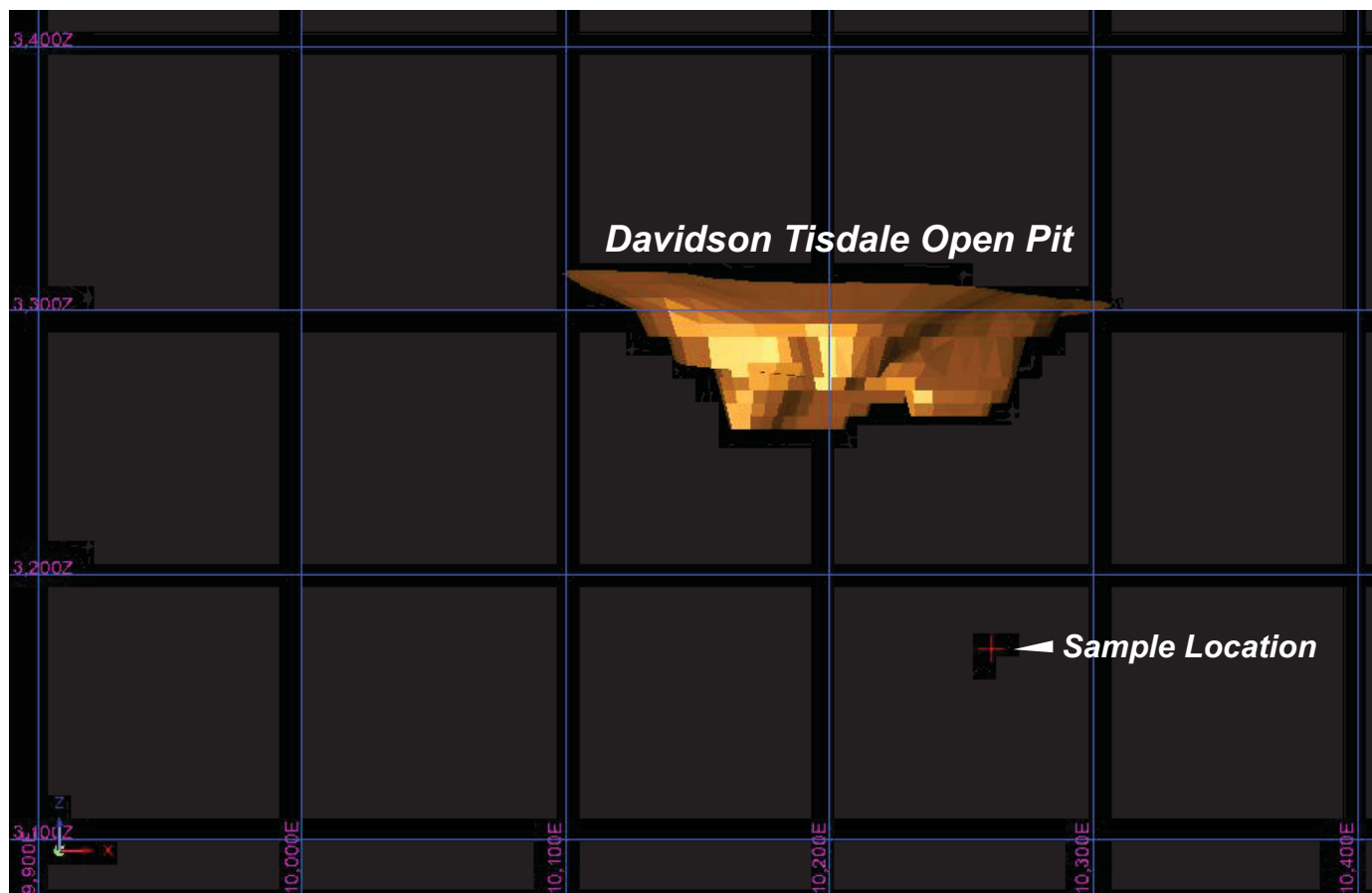


Figure 13-2

**Lexam VG Gold Inc.**

***Davidson Tisdale Gold Deposit***  
*Porcupine Mining Division*  
*North-Eastern Ontario, Canada*  
**Davidson Tisdale**  
**Metallurgical Sample Location**

June 2014

## 14 MINERAL RESOURCE ESTIMATE

### P&E 2013 BUFFALO ANKERITE PROPERTY MINERAL RESOURCE ESTIMATE FOR THE NORTH AND SOUTH ZONES

#### SUMMARY

Mineral Resources for the North and South Zones on the Buffalo Ankerite Property were estimated based entirely on surface and underground diamond drilling, core sampling and assaying. Portions of both zones were mined in the past and underground chip/channel sampling was carried out historically, however, these data were not available. The resource database is based on Imperial measure, consistent with the drill hole database that was developed during mining to 1953 and retained by subsequent operators on the property. Gold assay grades are in troy ounces per short ton. The drill hole database, which includes holes drilled in the Paymaster and Fuller deposits, contains 5,734 diamond drill holes totalling 1,615,789.77 ft (492,492.72 m). Of these, 4,841 holes for 777,361.45 ft (236,940 m) were collared underground and 893 holes for 838,428.32 ft (255,553 m) were drilled from surface. Resources in the North Zone were intersected by 735 holes totalling 240,418.21 ft (73,279 m) whereas resources in the South Zone were intersected by 692 holes for 241,422.3 ft (73,586 m).

The Mineral Resources for the North and South Zones were estimated by conventional 3D computer block modelling using Dassault Systèmes GEOVIA GEMS Version 6.4 software package (GEMS). Resources were estimated for open pit and underground mining based on wireframe cut-offs of 0.015 opt Au (0.5 g/t Au) for open pit and 0.045 opt Au (1.5 g/t Au) for underground. Grade interpolation was carried out by inverse distance cubed method (ID<sup>3</sup>). Preliminary open pits, with 45° slopes, were designed from the respective zones' resource block models using Whittle software. The Indicated and Inferred Resources within the Whittle optimized pits are summarized in Table 14-1. Resources outside the pits are considered as underground Mineral Resources. Table 14-2 summarizes the underground resources for a cut-off grade of 0.075 opt Au.



**TABLE 14-1 OPEN PIT MINERAL RESOURCE ESTIMATE – MAY 22, 2013**  
**Lexam VG Gold Inc. – Buffalo Ankerite Property**

| Zone                | Indicated Resources |                   |                                   |                          | Inferred Resources |                   |                                   |                          |
|---------------------|---------------------|-------------------|-----------------------------------|--------------------------|--------------------|-------------------|-----------------------------------|--------------------------|
|                     | Tons<br>(000)       | Grade<br>(opt Au) | Contained<br>Metal<br>(000 oz Au) | Lexam<br>Ounces<br>(000) | Tons<br>(000)      | Grade<br>(opt Au) | Contained<br>Metal<br>(000 oz Au) | Lexam<br>Ounces<br>(000) |
| North               | 532                 | 0.071             | 37.6                              | 37.6                     | 198                | 0.07              | 13.8                              | 13.8                     |
| South               | 2,622               | 0.075             | 197                               | 197                      | 2,707              | 0.068             | 183                               | 183                      |
| South-<br>Paymaster | 58                  | 0.072             | 4.2                               | 2.5                      | 113                | 0.061             | 6.9                               | 4.1                      |
| <b>Total</b>        | <b>3,212</b>        | <b>0.074</b>      | <b>239</b>                        | <b>237</b>               | <b>3,018</b>       | <b>0.067</b>      | <b>204</b>                        | <b>201</b>               |

Notes:

1. Mineral Resource estimate completed by P&E
2. CIM definitions were followed for Mineral Resources.
3. Mineral Resources are estimated at a cut-off grade of 0.015 opt Au for open pit.
4. Mineral Resources are estimated using a gold price of US\$1,600 per ounce, and a US\$/C\$ exchange rate 1:1.
5. Buffalo Ankerite North Zone Mineral Resources on the Paymaster Property are included in the RPA Paymaster Property Mineral Resource estimate.
6. Numbers may not add due to rounding.

**TABLE 14-2 UNDERGROUND MINERAL RESOURCE ESTIMATE – MAY 22, 2013**  
**Lexam VG Gold Inc. – Buffalo Ankerite Property**

| Zone                | Indicated Resource |                   |                                   |                          | Inferred Resource |                   |                                   |                          |
|---------------------|--------------------|-------------------|-----------------------------------|--------------------------|-------------------|-------------------|-----------------------------------|--------------------------|
|                     | Tons<br>(000)      | Grade<br>(opt Au) | Contained<br>Metal<br>(000 oz Au) | Lexam<br>Ounces<br>(000) | Tons<br>(000)     | Grade<br>(opt Au) | Contained<br>Metal<br>(000 oz Au) | Lexam<br>Ounces<br>(000) |
| North               | 1,779              | 0.149             | 266                               | 266                      | 1,017             | 0.122             | 124                               | 124                      |
| South               | 1,818              | 0.128             | 233                               | 233                      | 2,082             | 0.117             | 243                               | 243                      |
| South-<br>Paymaster | -                  | -                 | -                                 | -                        | 0.1               | 0.1               | 0.02                              | 0.01                     |
| <b>Total</b>        | <b>3,597</b>       | <b>0.139</b>      | <b>499</b>                        | <b>499</b>               | <b>3,099</b>      | <b>0.118</b>      | <b>367</b>                        | <b>367</b>               |

Notes:

1. Mineral Resource estimate completed by P&E
2. CIM definitions were followed for Mineral Resources.
3. Mineral Resources are estimated at a cut-off grade of 0.075 opt Au for underground.
4. Mineral Resources are estimated using a gold price of US\$1,600 per ounce, and a US\$/C\$ exchange rate 1:1.
5. Buffalo Ankerite North Zone Mineral Resources on the Paymaster Property are included in the RPA Paymaster Property Mineral Resource estimate.
6. Numbers may not add due to rounding.

## DRILL HOLE DATABASE

The drill hole database, which includes holes drilled in the Paymaster and Fuller deposits, contains 5,734 diamond drill holes totalling 1,615,789.77 ft (492,492.72 m). Of these, 4,841

holes for 777,361.45 ft (236,940 m) were collared underground and 893 holes for 838,428.32 ft (255,553 m) were drilled from surface (Figure 14-1).

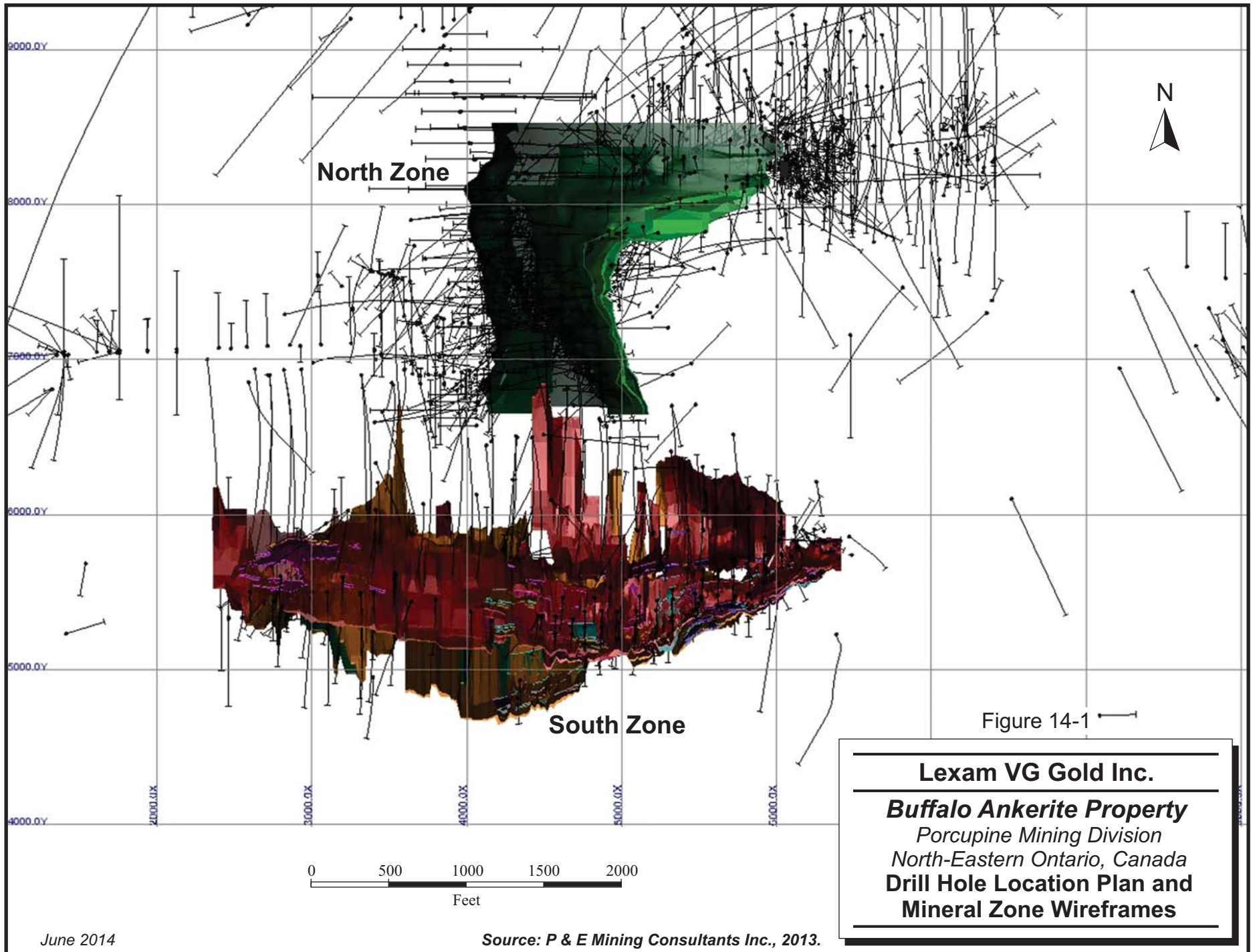
Resources in the North Zone were intersected by 735 holes (plus one wedge hole) totalling 240,418.21 ft (73,279 m) whereas the South Zone resources were intersected by 692 holes for 241,422.3 ft (73,586 m). A total of 600 holes in the North Zone were drilled underground and 511 were collared underground for the South Zone. The balance of 135 holes in the North Zone and 181 holes in the South Zone were drilled from surface.

Surface drilling on the South Zone is generally on 100 ft sections and at variable pierce points along dip with intercepts wider at depth in part due to fanned drilling on section.

The core sampling interval, nominally at five feet, is appropriate to the deposit scale and mineralization continuity.

## **DOWN HOLE DEVIATION SURVEYS**

P&E examined the down hole surveys for the resource holes in the North and South Zones and notes that 78% and 74% of the holes, respectively, were not surveyed and these mostly underground holes account for 44% and 25% respectively, of the drilled footage (Table 14-3). Of the surface and underground holes surveyed, high to implausible deviation readings were found in 32% of the North Zone holes and 45% of the South Zone holes. P&E recommends further review of the down hole surveys and to consider discarding some of the high to implausible deviation readings where practicable. In P&E's opinion, the drill hole database is consistent with older mine exploration work dating back to the pre-1950's and with drilling in the 1980's when survey instrumentation was not as good or QA/QC not as rigorous as in current practice. Nevertheless the quality of the drill hole database has to be taken into account when assessing resources risk in interpretation and classification of the resources.





**TABLE 14-3 SUMMARY OF DOWN HOLE DEVIATION SURVEYS**
**Lexam VG Gold Inc. – Buffalo Ankerite Property**

| Item  | North Zone | South Zone |
|---|------------|------------|
| Number of resource holes in survey file               | 734        | 756        |
| Number of records                                     | 1,481      | 2,000      |
| Total length drilled (ft)                             | 240,248.2  | 275,267.7  |
| Number of unsurveyed holes                            | 570        | 556        |
| Total length of unsurveyed holes (ft)                 | 105,220.0  | 69,629.3   |
| Percent of unsurveyed holes                           | 78%        | 74%        |
| Percent by length of unsurveyed holes                 | 44%        | 25%        |
| Number of surveyed holes with no azimuth change       | 1          | 1          |
| Number of surveyed holes with no dip change           | 7          | 2          |
| Number of azimuth readings >5°/100 ft                 | 52         | 108        |
| Number of dip readings >5°/100 ft                     | 25         | 15         |
| Number of azimuth readings >10°/100 ft                | 19         | 34         |
| Number of dip readings >10°/100 ft                    | 8          | 6          |
| Number of holes with one or more readings >5°/100 ft  | 53         | 91         |
| Number of holes with one or more readings >10°/100 ft | 18         | 33         |

## ASSAY DATABASE

The Buffalo Ankerite resource estimate is based on 6,100 assays over 21,705.28 ft (6,629.48 m) in the North Zone and 5,073 assays over 17,546.75 ft (5,348.25 m) in the South Zone.

P&E conducted verification of the drill hole assay database by comparison of the database entries with the assay certificates. The assay certificates were obtained in digital format directly from the assay laboratories and compiled. Both the North and South Zones extend onto the Paymaster property consequently P&E also checked assays of Paymaster drill core.

A total of 54,077 drill hole database entries were checked against certificates for Buffalo Ankerite and Paymaster assaying representing approximately 52% of the overall Buffalo Ankerite- Paymaster-Fuller assay database. Table 14-3 summarizes the results of database versus assay certificate verification. 11,885 matches of the Buffalo Ankerite database sample numbers with certificates were found. Of these, 3,188 values at less than the detection limit (LDL) of 0.005 g/t Au were entered as 0.003 g/t and 0.0001 opt. One value was entered as 0 g/t and 0.0008 opt with no impact on resource estimation. 8,636 matches for gold entries were confirmed and together with the LDL entries, this represents 99.5% of

the sample number matches. A total of 8,767 assays used in the resource estimate are from older drill holes and have no sample numbers available for verification.

A total of 61 database entries differed from the certificates and of these 5 were higher than the certificates and 56 were lower. 53 of these database values were 0 g/t or 0.0008 opt to 0.0009 opt. P&E notes that the treatment of LDL values in the database is variable; from one half the LDL to set values, larger or smaller than the certificate LDL's. A total of 638 of the assays checked are included in the resource estimate.

Significant differences ( $>0.01$  g/t) were found for 33 assays of which two are included in the resource estimate for the North Zone. These assays (94682 and 94690) are 12.55 g/t Au and 11.7 g/t Au in the certificates but zero in the drill hole database. Both assays are in hole VBA-12-196. This discrepancy should be further investigated.

Certificates for alternate laboratory Lab Expert were also examined for assays reported in ounces per ton or in grams per tonne.

#### Lab Expert (opt)

A total of 2,796 database entries reported as opt were paired with certificates. A total of 84 entries are also reported in g/t and have discrepancies versus certificates. The database entry exceeds the certificate value for 1,547 assays of which 1,524 are for LDL that is set at a higher value in the database. A total of 290 assays in this portion of the database exceed the open pit cut-off grade of 0.015 opt Au. 24 resource assays were found that differ  $>0.01$  opt with respect to the certificates. Of these, three samples were significantly lower in the database and should be checked.

**TABLE 14-4 LAB EXPERT ASSAYS TO CHECK**  
**Lexam VG Gold Inc. – Buffalo Ankerite Property**

| Hole ID    | Sample# | DB opt Au | Certificate opt Au |
|------------|---------|-----------|--------------------|
| S-35_VED   | 4492    | 0.04      | 0.6785             |
| VBA-06-23  | 8761    | 0.034     | 0.3400             |
| VBA-08-114 | 33820   | 0.0008    | 0.3580             |

### Lab Expert (g/t)

A total of 106 matches were found for assays reported in g/t, most of which are low grade. Of these, 22 of the database entries exceed the certificate value, 82 are less than the certificate value and 92 appear to be LDL entries. Only seven database entries exceed the pit cut-off of 0.5 g/t Au. A total of 24 assays differ by >0.01 g/t and are included in the resource estimate. Of these there a number exceeding 1 g/t ranging up to 6.5 g/t (versus zero in the database) for sample 21850 in VBA-05-02.

### Paymaster (g/t)

A total of 13,777 database entries were checked. Of these 13,397 were LDL and correctly reflected in the database but differences were noted for 380 non LDL assays. A total of 364 certificate values were greater than the database entries for which 361 were 0 g/t. The latter also had entries for gold in ounces per ton, however, they are inconsistent with the certificates and other assaying for these samples may have been involved. None of the assays with discrepancies were used in the resource estimate.

**TABLE 14-5 RESULTS OF DATABASE VERSUS ASSAY CERTIFICATE  
VERIFICATION FOR BUFFALO ANKERITE  
Lexam VG Gold Inc. – Buffalo Ankerite Property**

| Matches                    | DB> | DB< | DB=    | DB=0 | DB≥COG | Domains | Signif.<br>Δ | Signif. Δ in<br>Domains | LDL    |
|----------------------------|-----|-----|--------|------|--------|---------|--------------|-------------------------|--------|
| BA (g/t)<br>n=11,885       | 5   | 56  | 11,824 | 53   | 996    | 638     | 33           | 2                       | 3,188  |
| LabExpert (opt)<br>n=2,796 | 231 | 186 | 1,063  | 40   | 290    | 341     | 68           | 32                      | 1,524  |
| LabExpert (g/t)<br>n=106   | 22  | 82  | 2      | 77   | 7      | 29      | 68           | 24                      | 92     |
| Paymaster (g/t)<br>n= 380  | 16  | 364 | 13,397 | 361  | 12     | 0       | 292          | 0                       | 13,397 |

**Notes:**

1. Excludes 1,524 LDL values in the database that are slightly higher than the certificates.
2. In summary of the above work, P&E notes that:
  - there are minor inconsistencies in the treatment of values below detection limit
  - there are a small percentage of low grade assays within the resource domains that differ with respect to low grade certificate results
  - the few high certificate values entered as zeros in the database likely result in some conservatism in localized resource block values
  - the above items have little impact on the resource estimate.
  - P&E concludes that the assay database is acceptable for resource estimation.

## INTERPRETATION, WIREFRAMES AND CUT-OFFS

The geologic interpretation of the mineralized structures or zones was guided by drill hole logging of lithology and gold-bearing mineralization including quartz-tourmaline-carbonate-pyrite breccias, quartz veining, mineralized quartz-feldspar porphyries and shearing/alteration of volcanic rocks, and gold grades. The contact between metavolcanic host rocks and komatiites also guided interpretation of the zones particularly around the nose of the Kayorum syncline in the South Zone. The locations of stopes and drifts underground, voids logged in drilling and existing open pits at surface, were also important guides to interpreting the trend of the mineralized structures. Whilst the stopes are almost certainly in mineralization, the interpretation of vein trends based on stoping is not always unambiguous since mining locally appears to have changed from following main structures to splays, or vice-versa. In addition, the 3D spatial location of gold mineralized intervals and voids, as logged in drill holes is determined by down hole deviation surveys which for deeper holes, introduces some positioning error with respect to the surveyed mine openings.

Mineral wireframes were constructed based on a cut-off grade for open pit resources of 0.015 opt Au (0.5 g/t Au). Gold price and costs used to determine the cut-off grades are listed in Table 14-6. The underground resource cut-off for wireframing was 0.045 opt Au (1.5 g/t Au). The open pit cut-off was applied from surface to the 10,000 ft elevation at a depth of approximately 1,000 ft as the maximum depth expected for an open pit. Below the 10,000 ft elevation, the underground cut-off was applied to mineral zone wireframing. A minimum horizontal mining width, at a nominal six feet (1.8 m), was used in wireframing, however, this was relaxed where necessary to preserve zone continuity or for underground drilling where assaying in the zones is not continuous. The outline of the stopes and drifts on cross section generally determined the zone widths except where drilling indicated larger widths. Since the stopes are likely somewhat wider than the original mineralized zones mined, using the outlines accounts for the expectation of somewhat wider zones occurring due to the use of lower cut-off grades than employed during past mining.

**TABLE 14-6 DETERMINATION OF WIREFRAME CUT-OFF GRADE**  
**Lexam VG Gold Inc. – Buffalo Ankerite Property**

| Item                                      | Value           |
|---|-----------------|
| Gold Price                                | \$US1,600.00/oz |
| Underground Mining Cost                   | \$C46/t         |
| Open Pit Mineralization/Waste Mining Cost | \$C1.85/t       |
| Overburden Stripping Cost                 | \$C1.35/t       |
| G&A                                       | \$C5.00/t       |
| Process Cost                              | \$C18.00/t      |
| Process Recovery                          | 90%             |

#### **NORTH ZONE**

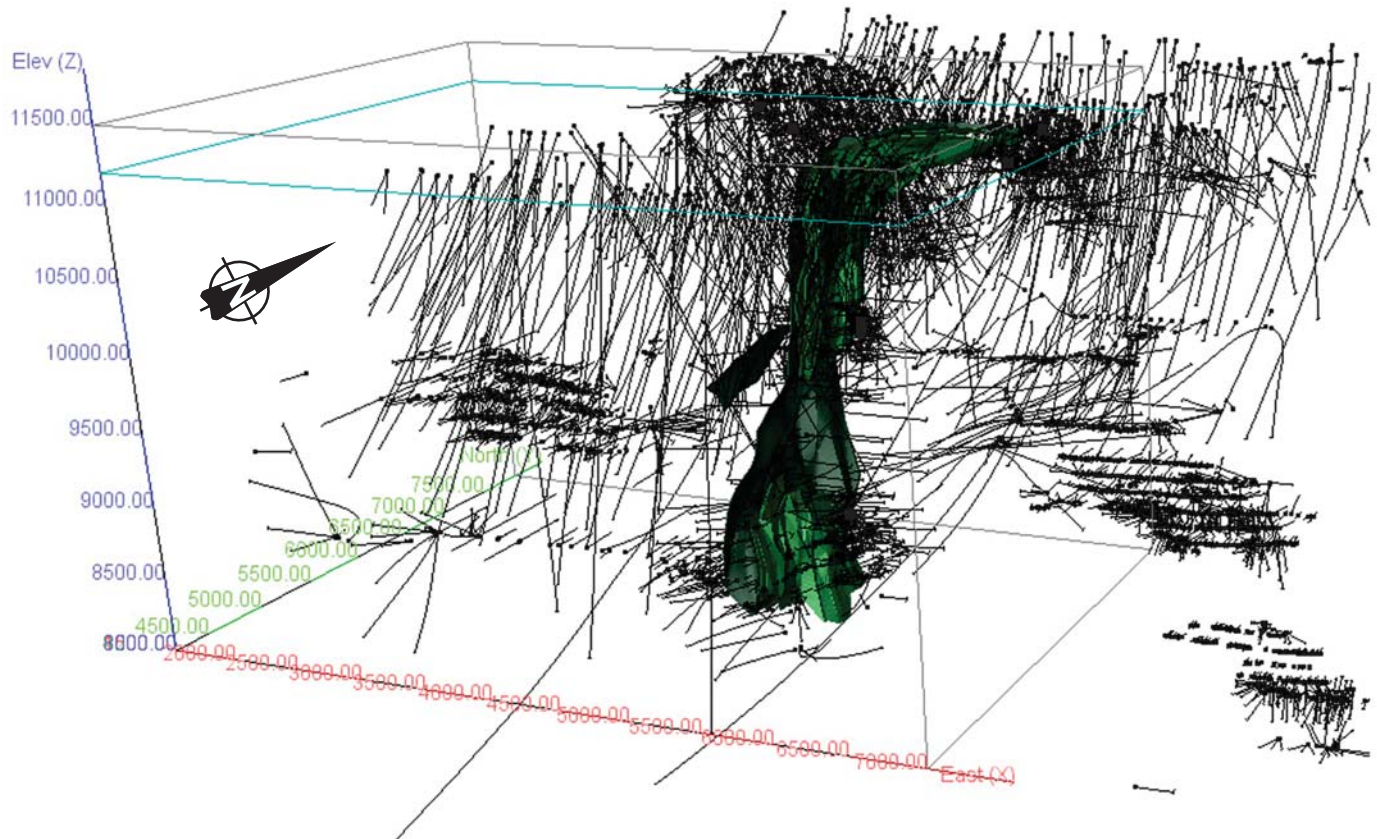
The North Zone has been subdivided geologically into four gold mineralized zones for the purpose of resource estimation (Figures 14-2 and 14-3). The North Zone has been tested by surface and underground drilling. East-west vertical cross sections were generated at 100 ft intervals in GEMS consistent with the surface and underground drill holes section spacing, the latter also drilled on 150 ft (50 m) level spacing. The wireframes were developed on these sections from polylines enclosing drill hole core samples with assays at or exceeding open pit or underground cut-off grades.

The North Zone wireframes occupy an area extending on NS strike up to 1,865 ft (568 m) in length and in east-west surface projection for up to 1,990 ft (607 m) including the near surface roll of the zones to the east. The wireframes extend from bedrock surface variously to elevation 7,300 ft, a depth up to 3,737 ft (1,139 m). Total volume of the North Zone wireframes is 200.2 million ft<sup>3</sup> or approximately 17.8 million tons at a bulk density of 0.0888 t/ft<sup>3</sup>. Figure 14-3 shows a 3D perspective view of the North Zone mineral domain wireframes.

The mineralized structures and the wireframed mineral domains are reasonably continuous section to section. One domain is continuous to depth whereas two of the domains are composed of upper and lower lenses. The fourth domain is not well defined by drilling and dips moderately west, possibly a splay off the more steeply west dipping (-70° to -75°) North Zones.

North Zone grades exceeding cut-off are reasonably continuous, however to preserve zone continuity locally, some low grade material and non-assayed intervals were incorporated as internal dilution. This dilution accounts for approximately 37% of the global wireframe material.

Looking NNW

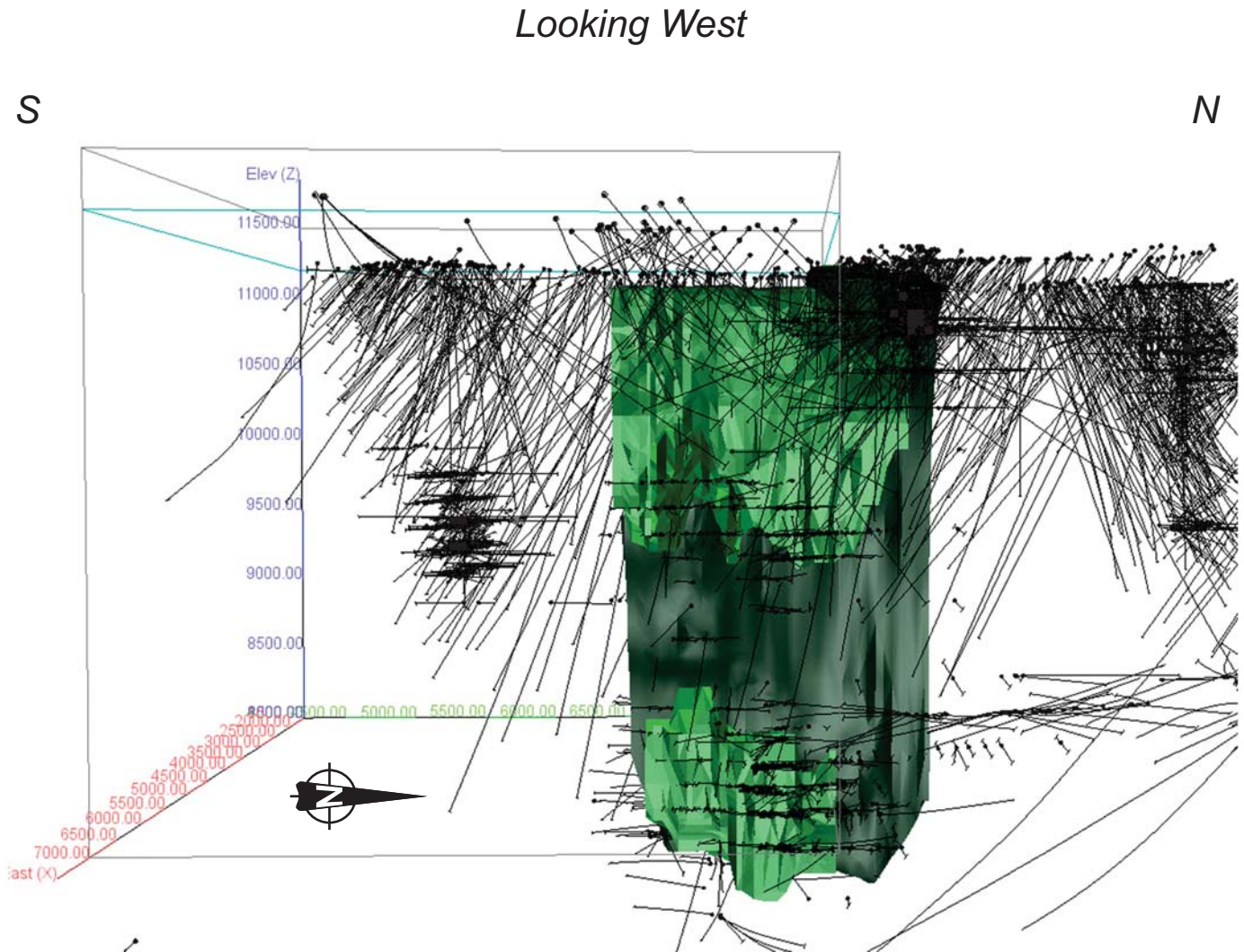


NOTE: Scale in Feet

Figure 14-2

**Lexam VG Gold Inc.**  
**Buffalo Ankerite Property**  
 Porcupine Mining Division  
 North-Eastern Ontario, Canada  
**3D Perspective Views of the  
 North Zone Resource Wireframes**





**NOTE: Scale in Feet**

Figure 14-3

**Lexam VG Gold Inc.**  
**Buffalo Ankerite Property**  
 Porcupine Mining Division  
 North-Eastern Ontario, Canada  
**3D Perspective Views of the  
 North Zone Resource Wireframes**



**SOUTH ZONE**

The South Zone has been subdivided geologically into 27 gold mineralized domains for the purpose of resource estimation. Some of the shallow depth domains have open pit resources only.

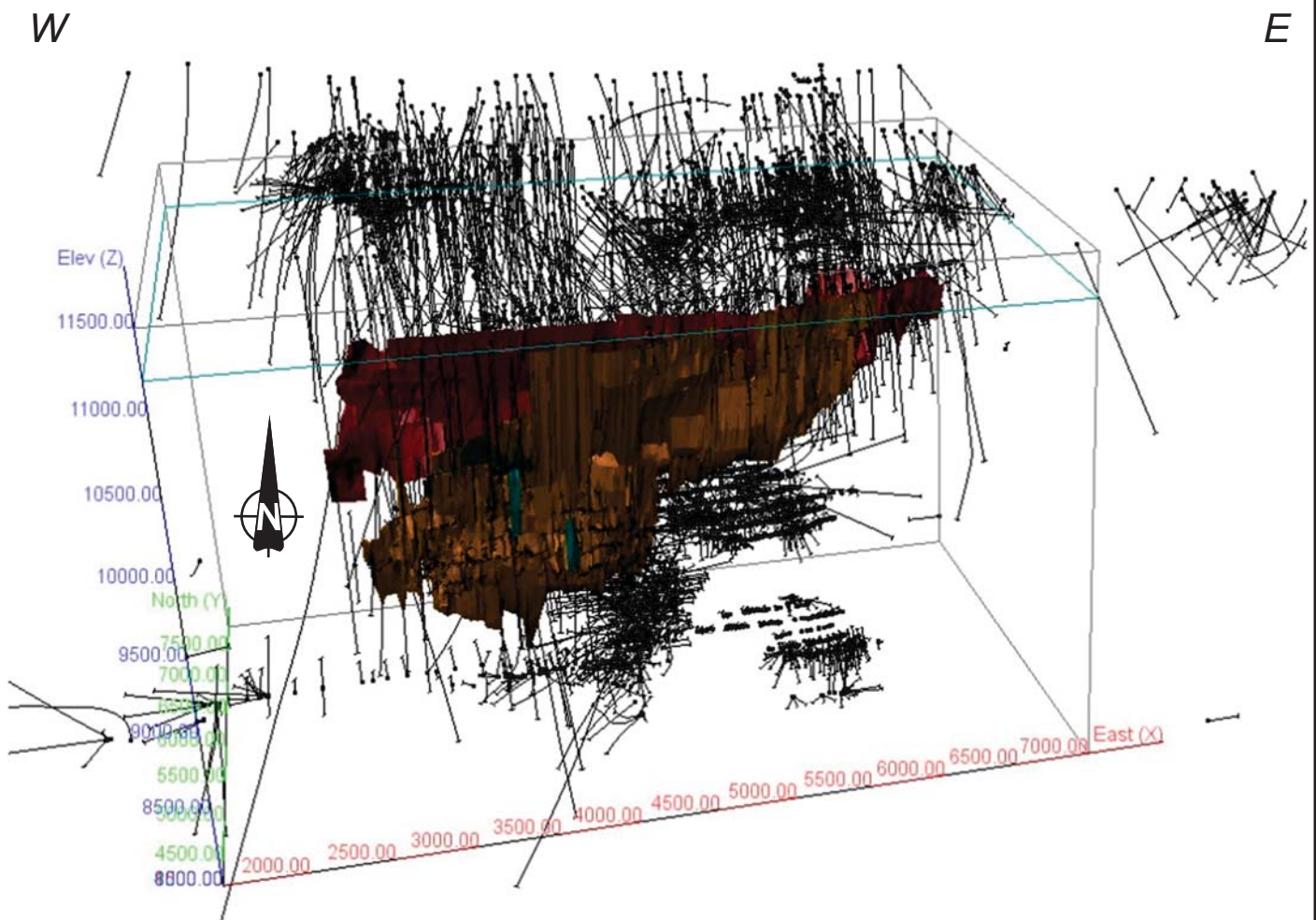
Above the 10,000 ft elevation, drilling is entirely from surface (200 exploration holes) whereas both underground and surface drilling tests the underground portion of the South Zone.

North-south vertical cross sections were generated at 100 ft intervals in GEMS consistent with the surface drill holes section spacing and filled in to 20 ft sections consistent with the detailed underground drilling and to follow the stopes and mine workings. The wireframes were developed on these sections from polylines enclosing drill hole core samples with assays at open pit or underground cut-off grades.

The South Zone wireframes extend within an area of east-west strike up to 4,040 ft (1,231 m) in length and in NS surface projection for up to 2,148 ft (655 m). The wireframes extend from bedrock surface variously to the 8,069 ft elevation, a depth up to 4,716 ft (1,437 m). Total volume of the South Zone wireframes is 276.8 million ft<sup>3</sup> or approximately 24.6 million tons at a bulk density of 0.0888 t/ft<sup>3</sup>. Figures 14-4 to 14-6 show 3D perspective views of the South Zone mineral domain wireframes.

The mineralized structures are stacked and quite continuous section to section with the wireframed mineral domains reasonably continuous at the open pit and underground cut-off grades. Where necessary to preserve zone continuity, however, some low grade material and non-assayed intervals were incorporated as internal dilution. This dilution accounts for approximately 21% of the global wireframe material.

Looking North



NOTE: Scale in Feet

Figure 14-4

**Lexam VG Gold Inc.**  
**Buffalo Ankerite Property**  
 Porcupine Mining Division  
 North-Eastern Ontario, Canada  
**3D Perspective Views of the  
 South Zone Resource Wireframes**

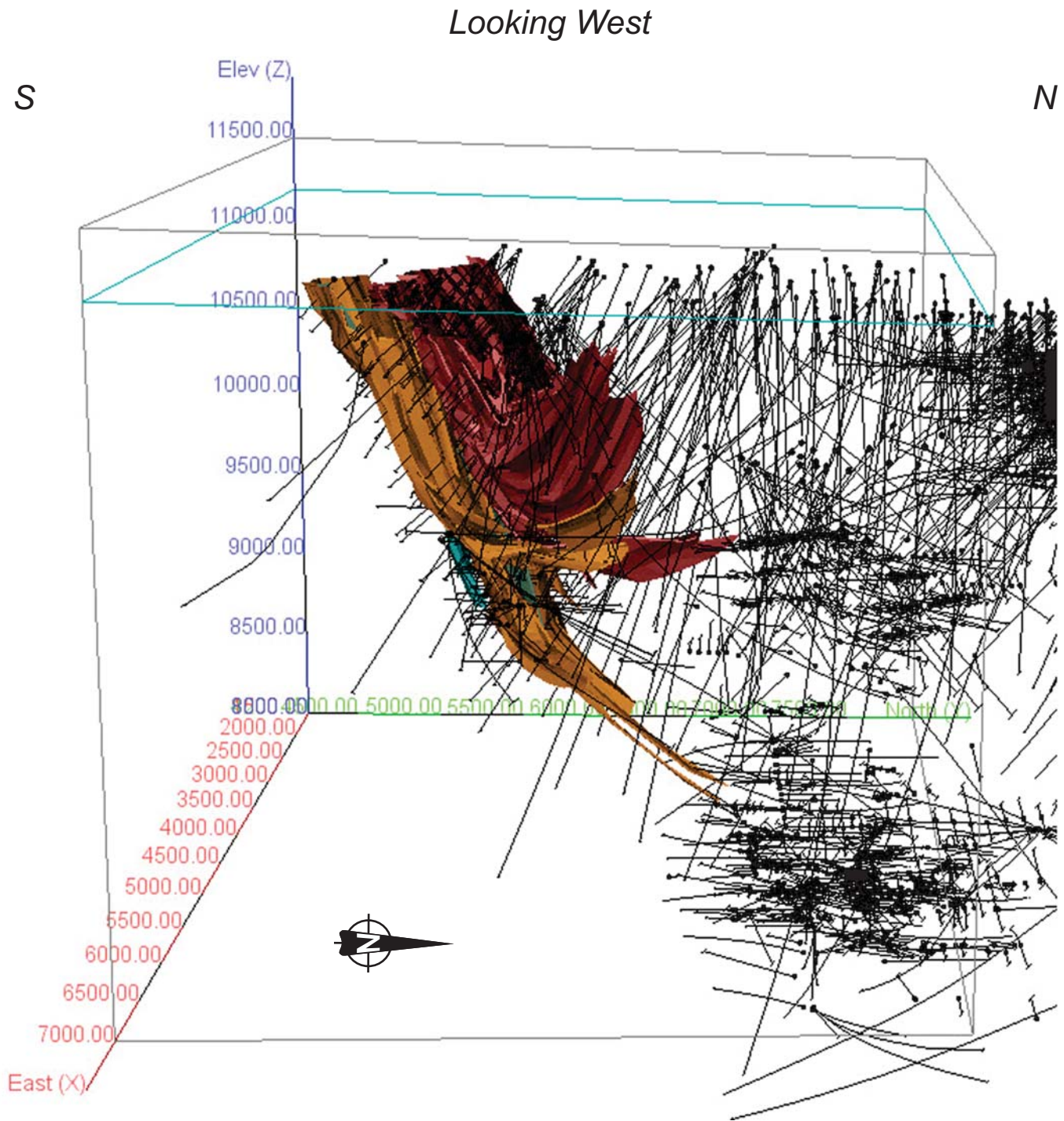


Figure 14-5

**Lexam VG Gold Inc.**  
**Buffalo Ankerite Property**  
 Porcupine Mining Division  
 North-Eastern Ontario, Canada  
**3D Perspective Views of the  
 South Zone Resource Wireframes**



Looking East

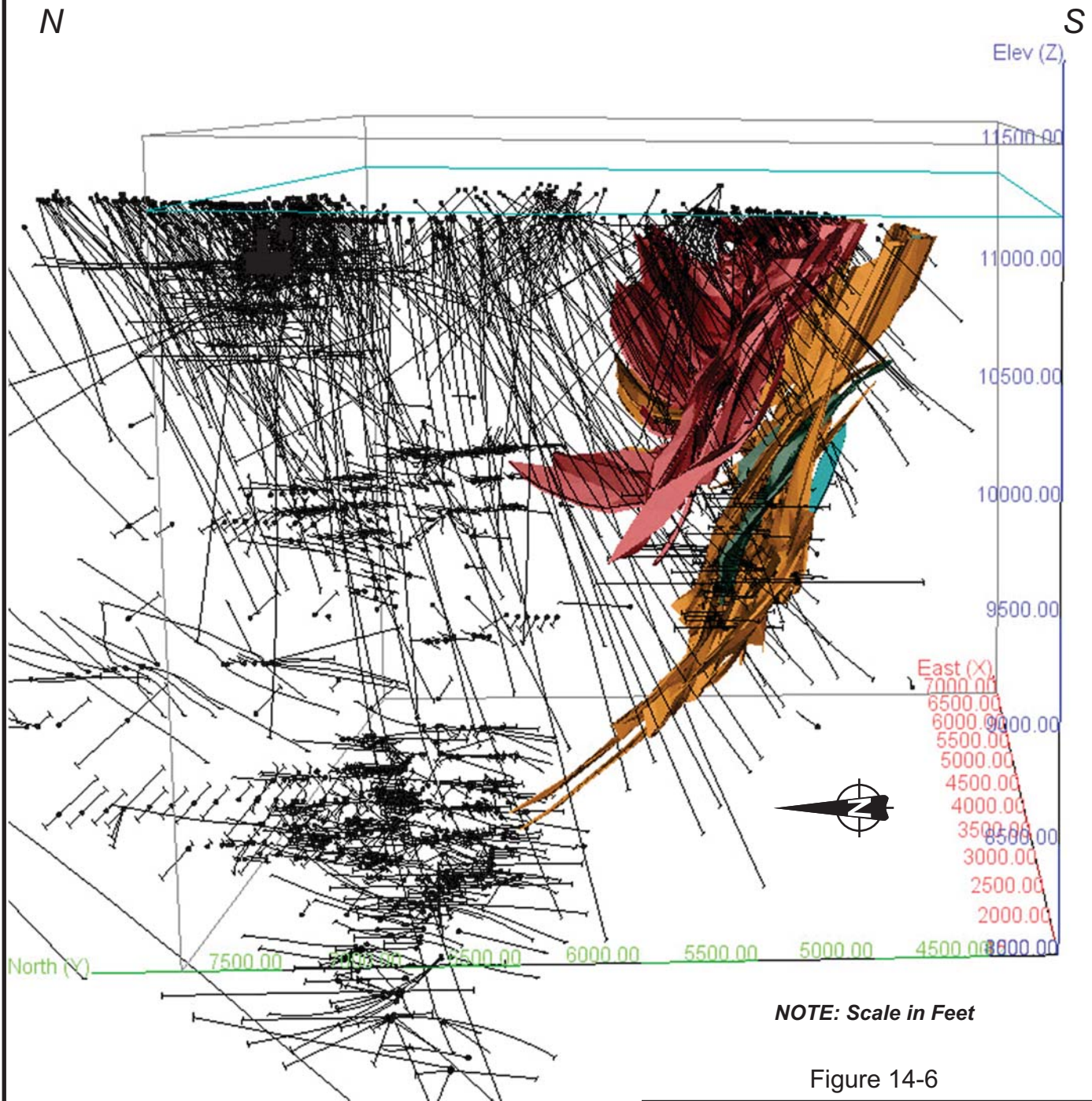


Figure 14-6

**Lexam VG Gold Inc.**  
**Buffalo Ankerite Property**  
 Porcupine Mining Division  
 North-Eastern Ontario, Canada  
**3D Perspective Views of the  
 South Zone Resource Wireframes**

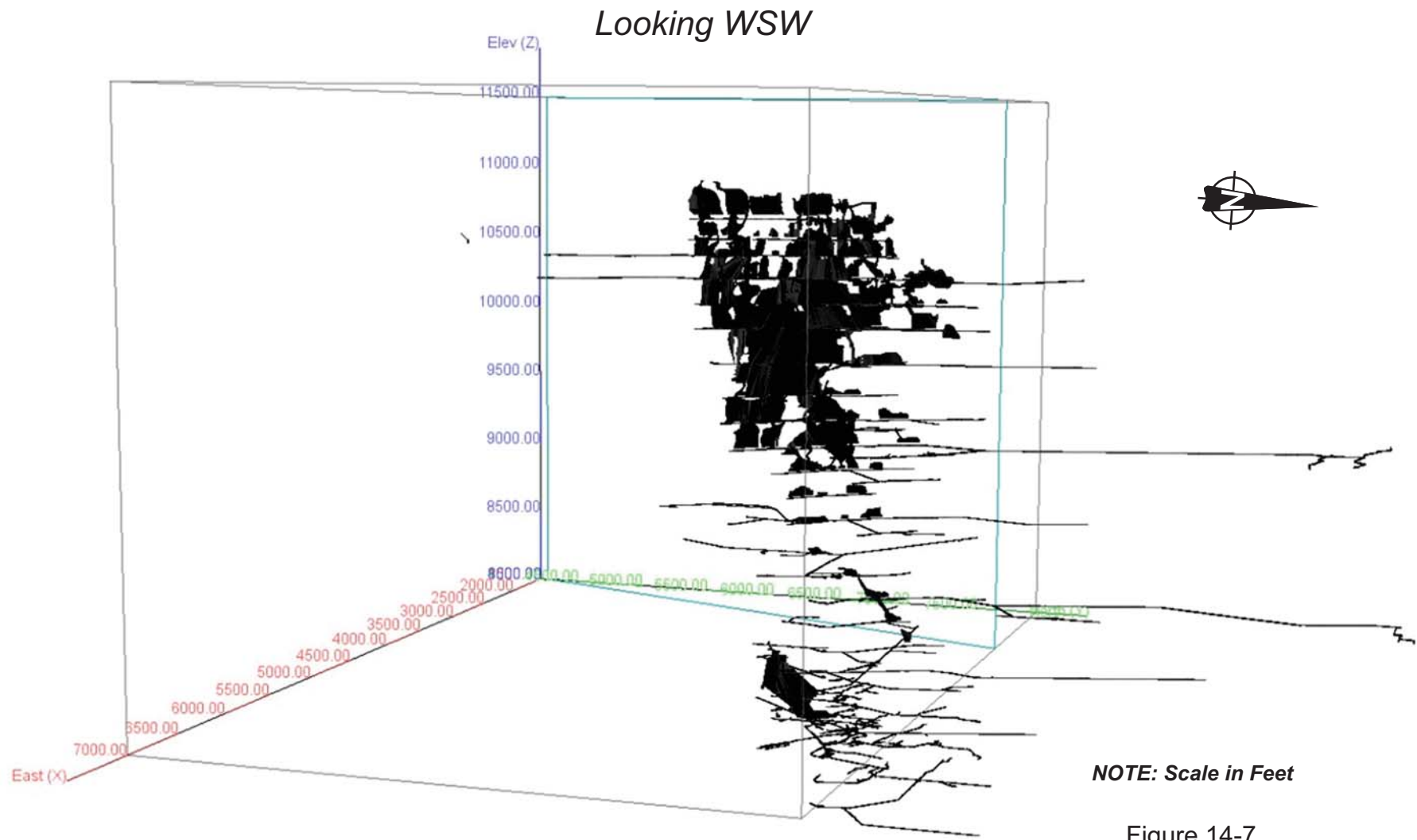
**WORKINGS WIREFRAMES**

Wireframes for mine stopes were constructed by Lexam and AGP Mining Consultants Inc. (AGP) from digitized outlines on level plans and cross sections at 1:120 and 1:240 scale and using various methods of polylines to solids and clipping techniques. Access and development workings (shafts, raises, ramps and drifts) were also digitized. A total of 145 stope models were built for the North Zone and 181 stopes for the South Zone.

P&E consolidated the stopes into one model for each zone to facilitate determination of the mined volumes and for building block models of the mined material. Several stopes were invalid and could not be integrated with the consolidated stope solids. P&E rebuilt these stopes and united them with the main stope solids. Five to six stopes for both zones required minor location shifts (fraction of a foot) to allow union with the stope solids as they were progressively built. Access workings and drifts/levels in mineralized material were also combined into single solids for each zone. Figures 14-7 and 14-8 illustrate 3D perspective views of the North and South Zone workings.

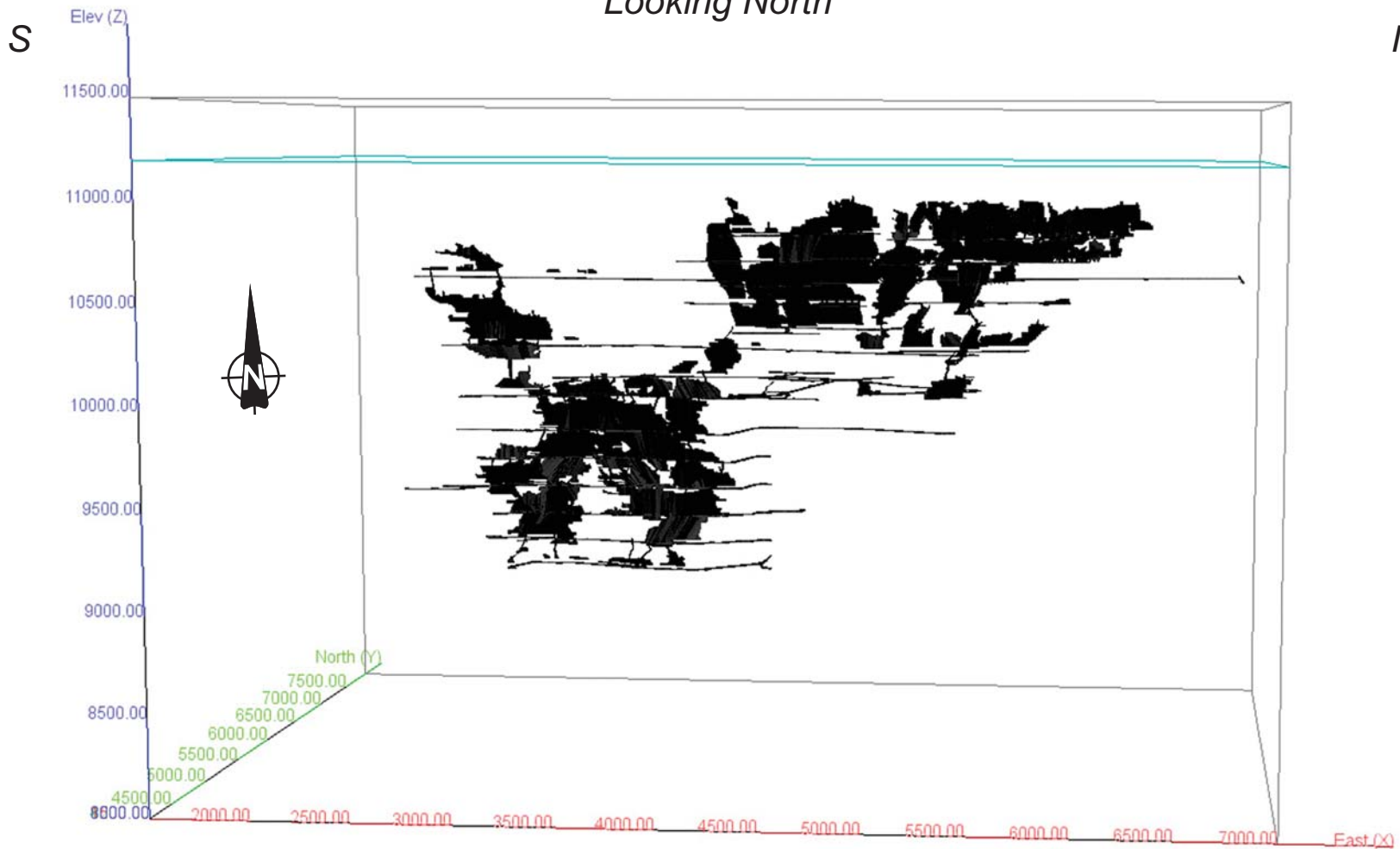
**SURFACES**

Excavation surfaces for topography, and the overburden-bedrock contact, were provided by Lexam and AGP. These surfaces cover both the North Zone and South Zone block models. The bedrock surface was used to “clip” the mineral wireframes where necessary and as an upper limit for reporting resources from the block model.



**Lexam VG Gold Inc.**  
**Buffalo Ankerite Property**  
 Porcupine Mining Division  
 North-Eastern Ontario, Canada  
**3D Perspective View of North Zone  
 Modeled Stopes and Drifts**

Looking North



NOTE: Scale in Feet

Figure 14-8

Lexam VG Gold Inc.

Buffalo Ankerite Property

Porcupine Mining Division

North-Eastern Ontario, Canada

3D Perspective View of South Zone

Modeled Stopes and Drifts



### WIREFRAME SOLIDS VOLUMETRICS

The volumes of the various solids used for resource estimation are listed in Tables 14-7 to 14-10. P&E cautions that the tabulated volumes of the mineral domain solids include the volumes for mined out stopes and drifts that are later removed for the purpose of reporting resources.

**TABLE 14-7 NORTH ZONE DOMAIN VOLUMES**

**Lexam VG Gold Inc. – Buffalo Ankerite Property**

| Wireframe Solid |        |        | Domain  | Model Code | Volume (ft <sup>3</sup> )<br>(000s) | Tons <sup>1</sup><br>(000s) | Tonnes<br>(000s) |
|-----------------|--------|--------|---------|------------|-------------------------------------|-----------------------------|------------------|
| Name 1          | Name 2 | Name 3 |         |            |                                     |                             |                  |
| 2013            | NZ-1   | Clip2  | NZ1-414 | 414        | 98,885                              | 8,781                       | 7,966            |
| NZ-1-N          | Splay  | Mar-14 | NZ1-415 | 415        | 2,150                               | 191                         | 173              |
| NZ2             | Clip2  | Union3 | NZ2-424 | 424        | 50,970                              | 4,526                       | 4,106            |
| NZ3             | Clip2  | Union3 | NZ3-434 | 434        | 48,218                              | 4,282                       | 3,884            |
| <b>Total</b>    |        |        |         |            | <b>200,223</b>                      | <b>17,780</b>               | <b>16,130</b>    |

Notes:

1. Tonnage factor of 11.26 ft<sup>3</sup>/ton or bulk density of 0.0888 t/ft<sup>3</sup> (2.85 SG) used to convert volume to tons
2. Solid clipped to overburden-bedrock contact
3. Lower lenses regenerated and appended to clipped upper lenses

**TABLE 14-8 SOUTH ZONE DOMAIN VOLUMES**

**Lexam VG Gold Inc. – Buffalo Ankerite Property**

| Wireframe/Domain |        |        | Model Code | Volume ft <sup>3</sup><br>(000s) | Tons<br>(000s) | Tonnes<br>(000s) |
|------------------|--------|--------|------------|----------------------------------|----------------|------------------|
| Name 1           | Name 2 | Name 3 |            |                                  |                |                  |
| SZ1              | A      | Clip2  | 1010       | 1,678                            | 149            | 135              |
| SZ1              | C      | Jan28  | 1030       | 4,580                            | 407            | 369              |
| SZ2              | A      | Clip2  | 2010       | 44,024                           | 3,909          | 3,546            |
| SZ2              | B      | Clip2  | 2020       | 907                              | 81             | 73               |
| SZ2              | C      | Clip2  | 2030       | 2,010                            | 178            | 161              |
| SZ2              | D      | Jan28  | 2040       | 466                              | 41             | 37               |
| SZ2              | E      | Clip2  | 2050       | 8,477                            | 753            | 683              |
| SZ2              | H      | Clip2  | 2080       | 36,841                           | 3,272          | 2,968            |
| SZ2              | J      | Jan28  | 2100       | 6,338                            | 563            | 511              |
| SZ2              | K      | Jan29  | 2110       | 3,147                            | 279            | 253              |
| SZ2              | N      | Jan29  | 2140       | 701                              | 62             | 56               |
| SZ2              | Q      | Jan29  | 2170       | 6,601                            | 586            | 532              |
| SZ2              | R      | Jan29  | 2180       | 477                              | 42             | 38               |
| SZ3              | A      | Jan29  | 3010       | 103                              | 9              | 8                |
| SZ3              | C      | Feb1   | 3030       | 1,363                            | 121            | 110              |
| SZ3              | D      | Jan25  | 3040       | 23,468                           | 2,084          | 1,891            |

| Wireframe/Domain |           |        | Model Code | Volume ft <sup>3</sup><br>(000s) | Tons<br>(000s) | Tonnes<br>(000s) |
|------------------|-----------|--------|------------|----------------------------------|----------------|------------------|
| Name 1           | Name 2    | Name 3 |            |                                  |                |                  |
| SZ3              | E         | Clip2  | 3050       | 26,654                           | 2,367          | 2,147            |
| SZ3              | F         | Jan30  | 3060       | 552                              | 49             | 44               |
| SZ3              | G         | Jan30  | 3070       | 208                              | 18             | 16               |
| SZ3              | H         | Clip2  | 3080       | 85,515                           | 7,594          | 6,889            |
| SZ3              | I         | Clip2  | 3090       | 6,361                            | 565            | 513              |
| SZ3              | J         | Clip2  | 3100       | 4,947                            | 439            | 398              |
| SZ3              | K         | Clip2  | 3110       | 3,460                            | 307            | 279              |
| SZ3              | L         | Jan31  | 3120       | 2,557                            | 227            | 206              |
| SZ3              | N         | Feb13  | 3140       | 1,328                            | 118            | 107              |
| SZ3              | O         | Jan31  | 3150       | 824                              | 73             | 66               |
| SZ4              | LG        | Feb1   | 4000       | 3,248                            | 288            | 261              |
| <b>Totals</b>    | <b>27</b> |        |            | <b>276,835</b>                   | <b>24,583</b>  | <b>22,302</b>    |

Notes:

1. Tonnage factor 11.26 ft<sup>3</sup>/ton or 0.0888 tons/ft<sup>3</sup> (2.85 SG) used to convert volumes to tons
2. Clipped to bedrock surface-overburden base and by other solids

**TABLE 14-9 STOPES AND WORKINGS WIREFRAME SOLIDS VOLUMETRICS**

**Lexam VG Gold Inc. – Buffalo Ankerite Property**

| Wireframe Solid |          |          | Model Code | Volume (ft <sup>3</sup> )<br>(000s) | Tons1<br>(000s) | Tonnes<br>(000s) |
|-----------------|----------|----------|------------|-------------------------------------|-----------------|------------------|
| Name 1          | Name 2   | Name 3   |            |                                     |                 |                  |
| NZ              | Stopes   | Combined | 999        | 27,642                              | 2,455           | 2,227            |
| NZ-UG           | Workings | Combined | 999        | 7,324                               | 650             | 590              |
| Subtotal        |          |          |            | 34,966                              | 3,105           | 2,817            |
| SZStopes        | All      | Valid    | 999        | 37,201                              | 3,303           | 2,997            |
| SZ              | Drifts   | Valid    | 999        | 5,336                               | 474             | 430              |
| Subtotal        |          |          |            | 42,538                              | 3,777           | 3,427            |
| <b>Total</b>    |          |          |            | <b>77,503</b>                       | <b>6,882</b>    | <b>6,244</b>     |

Notes:

1. Tonnage factor of 11.26 ft<sup>3</sup>/ton or bulk density of 0.0888 ton/ft<sup>3</sup> (2.85 SG) used to convert volume to tons

**TABLE 14-10 DRILL HOLE INTERCEPTS IN THE MINERAL WIREFRAMES**
**Lexam VG Gold Inc. – Buffalo Ankerite Property**
**North Zone Intercepts**

| Domain      | Model Code | Intercepts | Intercept (ft) | Assayed (ft) | % Assayed |
|-------------|------------|------------|----------------|--------------|-----------|
| All Domains | -          | 1,088      | 31,305.36      | 23,007.07    | 73%       |
| NZ1-414     | 414        | 424        | 11,067.48      | 7,599.65     | 69%       |
| NZ1-415     | 415        | 7          | 54.80          | 54.80        | 100%      |
| NZ2-424     | 424        | 346        | 10,782.53      | 8,448.42     | 78%       |
| NZ3-434     | 434        | 311        | 9,400.54       | 6,904.20     | 73%       |

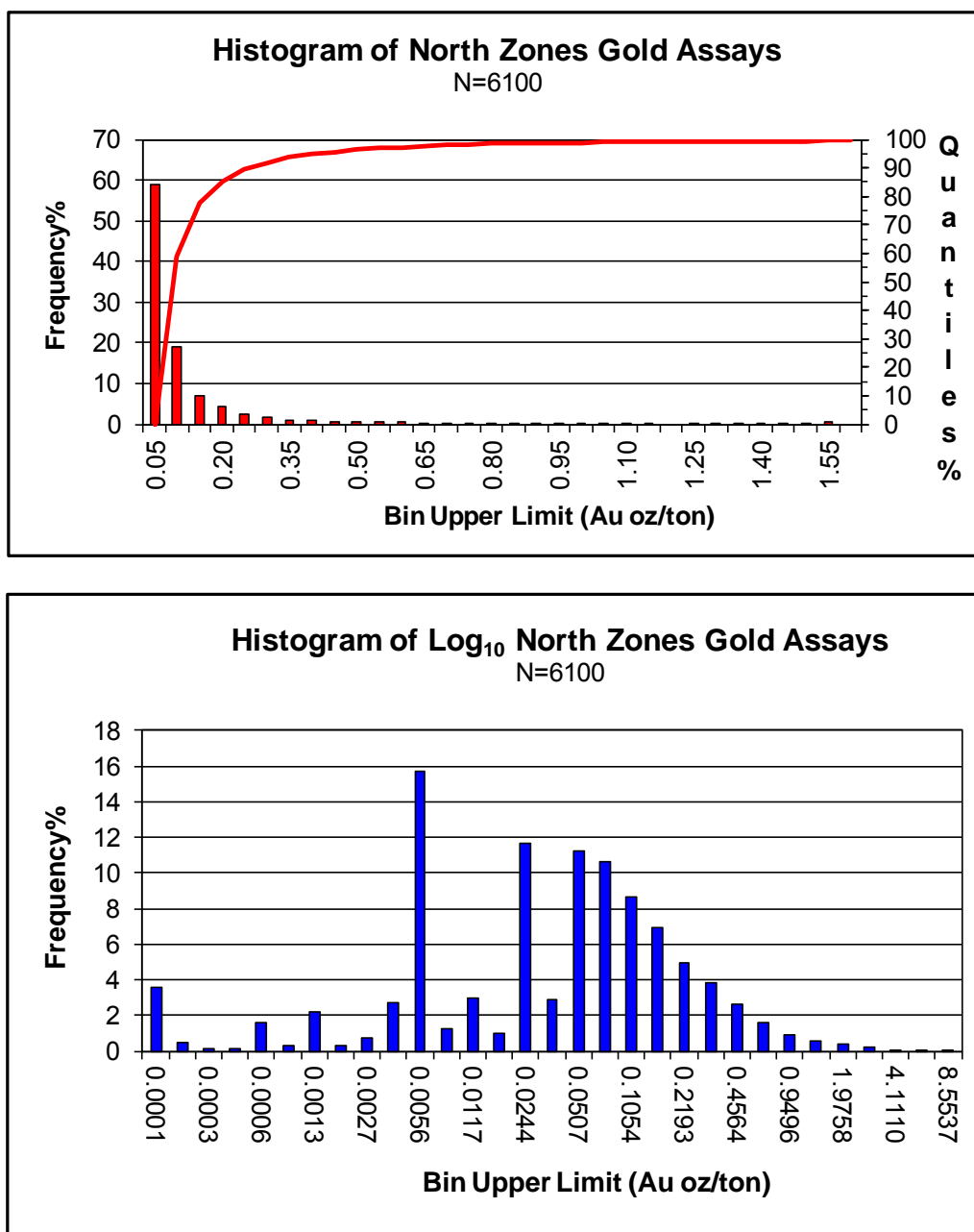
**South Zone Intercepts**

| Domain      | Model Code | Intercepts | Intercept (ft) | Assayed (ft) | % Assayed |
|-------------|------------|------------|----------------|--------------|-----------|
| All Domains | -          | 1,193      | 27,130.09      | 18,624.94    | 69%       |
| SZ1-A       | 1010       | 15         | 263.82         | 263.82       | 100%      |
| SZ1-C       | 1030       | 11         | 194.26         | 194.26       | 100%      |
| SZ2-A       | 2010       | 99         | 2,000.52       | 1,970.91     | 99%       |
| SZ2-B       | 2020       | 6          | 267.28         | 266.48       | 100%      |
| SZ2-C       | 2030       | 18         | 195.88         | 184.49       | 94%       |
| SZ2-D       | 2040       | 3          | 31.80          | 31.80        | 100%      |
| SZ2-E       | 2050       | 23         | 352.33         | 348.43       | 99%       |
| SZ2-H       | 2080       | 58         | 1,147.30       | 1,084.65     | 95%       |
| SZ2-J       | 2100       | 14         | 215.64         | 168.22       | 78%       |
| SZ2-K       | 2110       | 7          | 197.75         | 130.25       | 66%       |
| SZ2-N       | 2140       | 3          | 190.46         | 94.50        | 50%       |
| SZ2-Q       | 2170       | 2          | 58.50          | 43.50        | 74%       |
| SZ2-R       | 2180       | 1          | 19.70          | 19.70        | 100%      |
| SZ3-A       | 3010       | 2          | 14.00          | 14.00        | 100%      |
| SZ3-C       | 3030       | 25         | 291.65         | 171.75       | 59%       |
| SZ3-D       | 3040       | 163        | 3,324.09       | 1,866.56     | 56%       |
| SZ3-E       | 3050       | 247        | 6,030.14       | 3,208.27     | 53%       |
| SZ3-F       | 3060       | 1          | 20.00          | 20.00        | 100%      |
| SZ3-G       | 3070       | 1          | 10.00          | 10.00        | 100%      |
| SZ3-H       | 3080       | 435        | 10,850.25      | 7,127.16     | 66%       |
| SZ3-I       | 3090       | 17         | 349.64         | 341.12       | 98%       |
| SZ3-J       | 3100       | 17         | 370.08         | 370.08       | 100%      |
| SZ3-K       | 3110       | 14         | 222.91         | 222.91       | 100%      |
| SZ3-L       | 3120       | 3          | 78.36          | 78.36        | 100%      |
| SZ3-N       | 3140       | 3          | 198.50         | 198.50       | 100%      |
| SZ3-O       | 3150       | 3          | 71.00          | 71.00        | 100%      |
| SZ4-LG      | 4000       | 2          | 164.20         | 124.20       | 76%       |

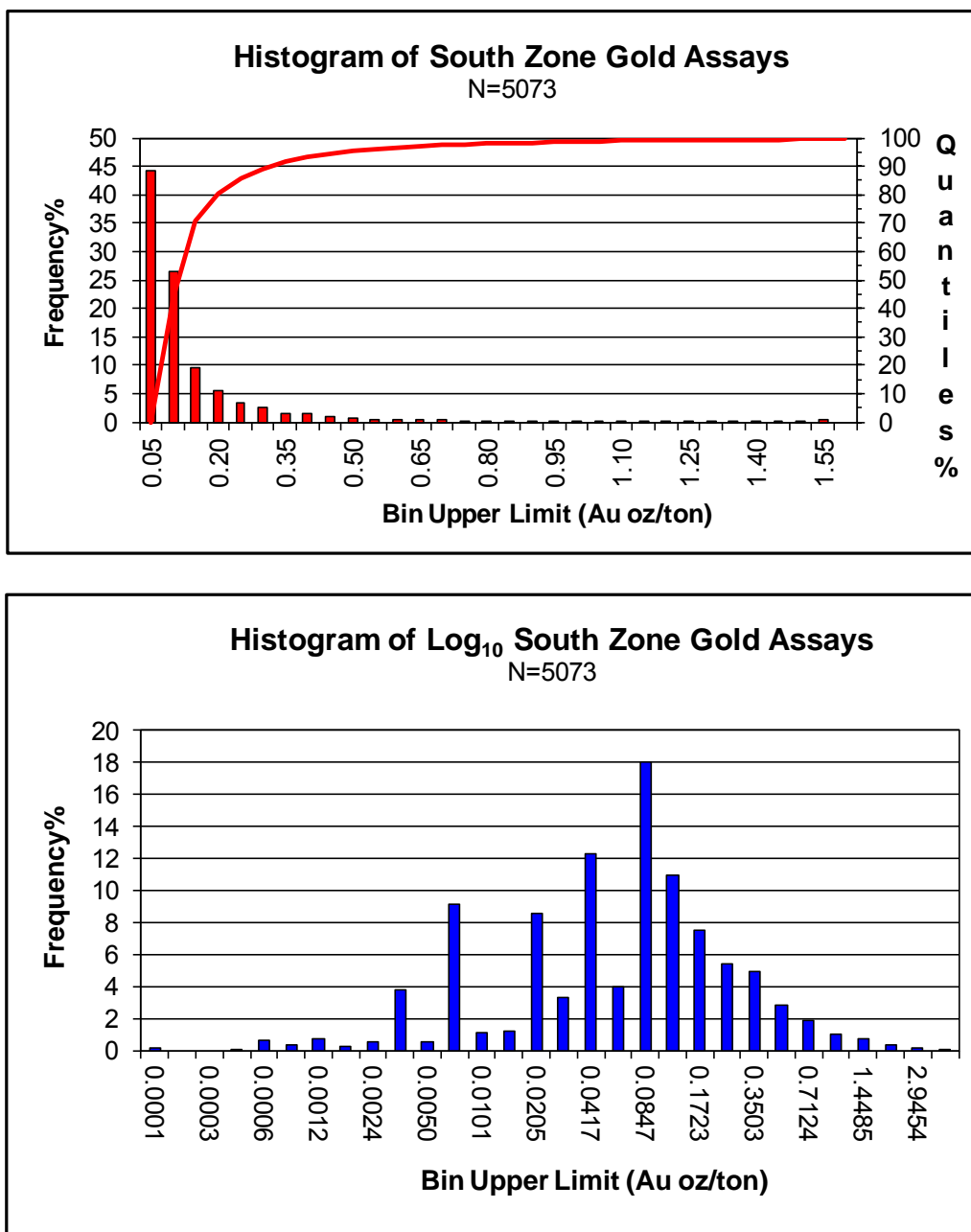
## ASSAY GRADE DISTRIBUTIONS AND STATISTICS

The grade distribution for gold assays within the wireframes is positively skewed for the both the North and South Zones and approaches log-normal to a Poisson distribution as shown in the histograms in Figures 14-9 and 14-10. Coefficient of variation for the North Zone exceeds 2 and is approaching 2 for the South Zone. Tables 14-11 and 14-12 present the assay statistics for the North and South Zones.

**FIGURE 14-9 NORTH ZONE ASSAY HISTOGRAMS**



**FIGURE 14-10 SOUTH ZONE ASSAY HISTOGRAMS**



**TABLE 14-11 NORTH ZONE ASSAY STATISTICS**  
**Lexam VG Gold Inc. – Buffalo Ankerite Property**

| <b>Assays above 10,000 ft Elevation</b> |                    |               |                      |
|---|--------------------|---------------|----------------------|
| <b>Statistic</b>                        | <b>Length (ft)</b> | <b>Au opt</b> | <b>Au opt Capped</b> |
| Count                                   | 1,959              | 1,959         | 1,959                |
| Sum                                     | 7,977.48           | -             | -                    |
| Minimum                                 | 0.20               | 0.000         | 0.000                |
| 25th Percentile                         | 2.60               | 0.010         | 0.010                |
| Median                                  | 4.00               | 0.025         | 0.025                |
| 75th Percentile                         | 5.00               | 0.065         | 0.065                |
| Maximum                                 | 50.00              | 2.790         | 1.500                |
| Mean                                    | 4.07               | 0.065         | 0.063                |
| Weighted Mean                           | -                  | 0.054         | 0.054                |
| Variance                                | 6.11               | 0.019         | 0.015                |
| Standard Deviation                      | 2.47               | 0.138         | 0.123                |
| Coefficient of Variation                | 0.61               | 2.14          | 1.94                 |
| Skewness                                | 6.30               | 8.64          | 5.94                 |
| Kurtosis                                | 92.84              | 120.14        | 50.98                |
| 95th Percentile                         | 7.50               | 0.230         | 0.230                |
| 98th Percentile                         | 10.00              | 0.412         | 0.412                |
| 99th Percentile                         | 10.33              | 0.590         | 0.590                |
| 99.5th Percentile                       | 14.00              | 0.790         | 0.790                |

| <b>Assays below 10,000 ft Elevation</b> |                    |               |                      |
|---|--------------------|---------------|----------------------|
| <b>Statistic</b>                        | <b>Length (ft)</b> | <b>Au opt</b> | <b>Au opt Capped</b> |
| Count                                   | 4,141              | 4,141         | 4,141                |
| Sum                                     | 13,772.80          | -             | -                    |
| Minimum                                 | 0.50               | 0.000         | 0.000                |
| 25th Percentile                         | 2.00               | 0.005         | 0.005                |
| Median                                  | 3.00               | 0.040         | 0.040                |
| 75th Percentile                         | 5.00               | 0.106         | 0.106                |
| Maximum                                 | 15.00              | 5.930         | 1.500                |
| Mean                                    | 3.33               | 0.111         | 0.105                |
| Weighted Mean                           | -                  | 0.103         | 0.099                |
| Variance                                | 2.57               | 0.069         | 0.040                |
| Standard Deviation                      | 1.60               | 0.262         | 0.200                |
| Coefficient of Variation                | 0.48               | 2.37          | 1.91                 |
| Skewness                                | 0.39               | 8.87          | 4.31                 |
| Kurtosis                                | 0.61               | 128.40        | 22.55                |
| 95th Percentile                         | 5.00               | 0.440         | 0.440                |
| 98th Percentile                         | 6.00               | 0.762         | 0.762                |
| 99th Percentile                         | 7.00               | 1.220         | 1.220                |
| 99.5th Percentile                       | 8.00               | 1.700         | 1.500                |

**TABLE 14-12 SOUTH ZONE ASSAY STATISTICS**  
**Lexam VG Gold Inc. – Buffalo Ankerite Property**

| Assays above 10,000 ft Elevation |             |        |               |
|----------------------------------|-------------|--------|---------------|
| Statistic                        | Length (ft) | Au opt | Au opt Capped |
| Count                            | 1,360       | 1,360  | 1,360         |
| Sum                              | 5,308.62    | -      | -             |
| Minimum                          | 1.20        | 0.000  | 0.000         |
| 25th Percentile                  | 3.00        | 0.016  | 0.016         |
| Median                           | 3.90        | 0.036  | 0.036         |
| 75th Percentile                  | 5.00        | 0.074  | 0.074         |
| Maximum                          | 10.60       | 2.552  | 1.500         |
| Mean                             | 3.90        | 0.071  | 0.070         |
| Weighted Mean                    | -           | 0.068  | 0.068         |
| Variance                         | 1.11        | 0.018  | 0.015         |
| Standard Deviation               | 1.05        | 0.133  | 0.121         |
| Coefficient of Variation         | 0.27        | 1.88   | 1.72          |
| Skewness                         | 0.53        | 8.05   | 5.48          |
| Kurtosis                         | 1.18        | 109.59 | 43.43         |
| 95th Percentile                  | 5.40        | 0.248  | 0.248         |
| 98th Percentile                  | 6.00        | 0.439  | 0.439         |
| 99th Percentile                  | 6.28        | 0.609  | 0.609         |
| 99.5th Percentile                | 6.86        | 0.811  | 0.811         |

| Assays below 10,000 ft Elevation |             |        |               |
|----------------------------------|-------------|--------|---------------|
| Statistic                        | Length (ft) | Au opt | Au opt Capped |
| Count                            | 3,713       | 3,713  | 3,713         |
| Sum                              | 12,238.13   | -      | -             |
| Minimum                          | 0.30        | 0.001  | 0.001         |
| 25th Percentile                  | 2.00        | 0.025  | 0.025         |
| Median                           | 3.00        | 0.070  | 0.070         |
| 75th Percentile                  | 5.00        | 0.140  | 0.140         |
| Maximum                          | 16.00       | 4.200  | 1.500         |
| Mean                             | 3.30        | 0.137  | 0.133         |
| Weighted Mean                    | -           | 0.130  | 0.127         |
| Variance                         | 2.31        | 0.059  | 0.043         |
| Standard Deviation               | 1.52        | 0.243  | 0.206         |
| Coefficient of Variation         | 0.46        | 1.77   | 1.55          |
| Skewness                         | 0.32        | 6.10   | 3.78          |
| Kurtosis                         | 0.78        | 58.58  | 17.71         |
| 95th Percentile                  | 5.00        | 0.480  | 0.480         |
| 98th Percentile                  | 6.00        | 0.858  | 0.858         |
| 99th Percentile                  | 6.00        | 1.130  | 1.130         |
| 99.5th Percentile                | 7.00        | 1.658  | 1.500         |



## GRADE CAPPING

After review of the histograms and assay statistics, P&E prepared cumulative frequency % log-probability plots and cutting curves for all gold assays in the zones in order to examine the need for grade capping. The skewed nature of the gold grade distribution and moderate to high coefficient of variation indicates that grade capping is warranted to avoid over influencing the average grade. Based on similar grade distributions for the North and South zones, P&E selected 1.5 opt Au as an appropriate grade capping level for both zones. Examination of assays >1.5 opt Au in 3D space showed essentially random distribution, i.e. no clustering that would warrant independent wireframing.

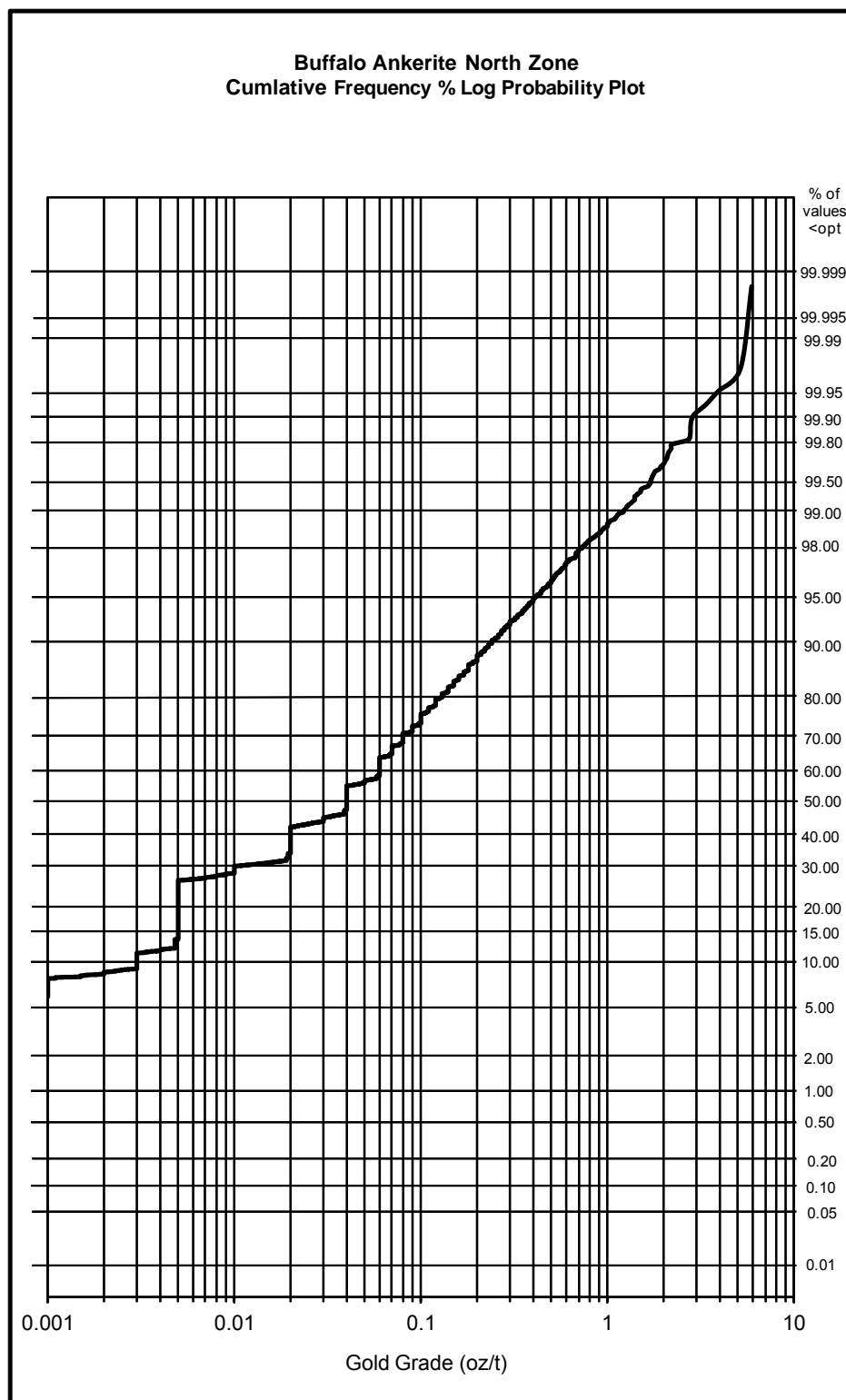
The effect of capping at 1.5 opt Au is shown in Table 14-13.

**TABLE 14-13 IMPACT OF CAPPING AT 1.5 OPT AU**  
**Lexam VG Gold Inc. – Buffalo Ankerite Property**

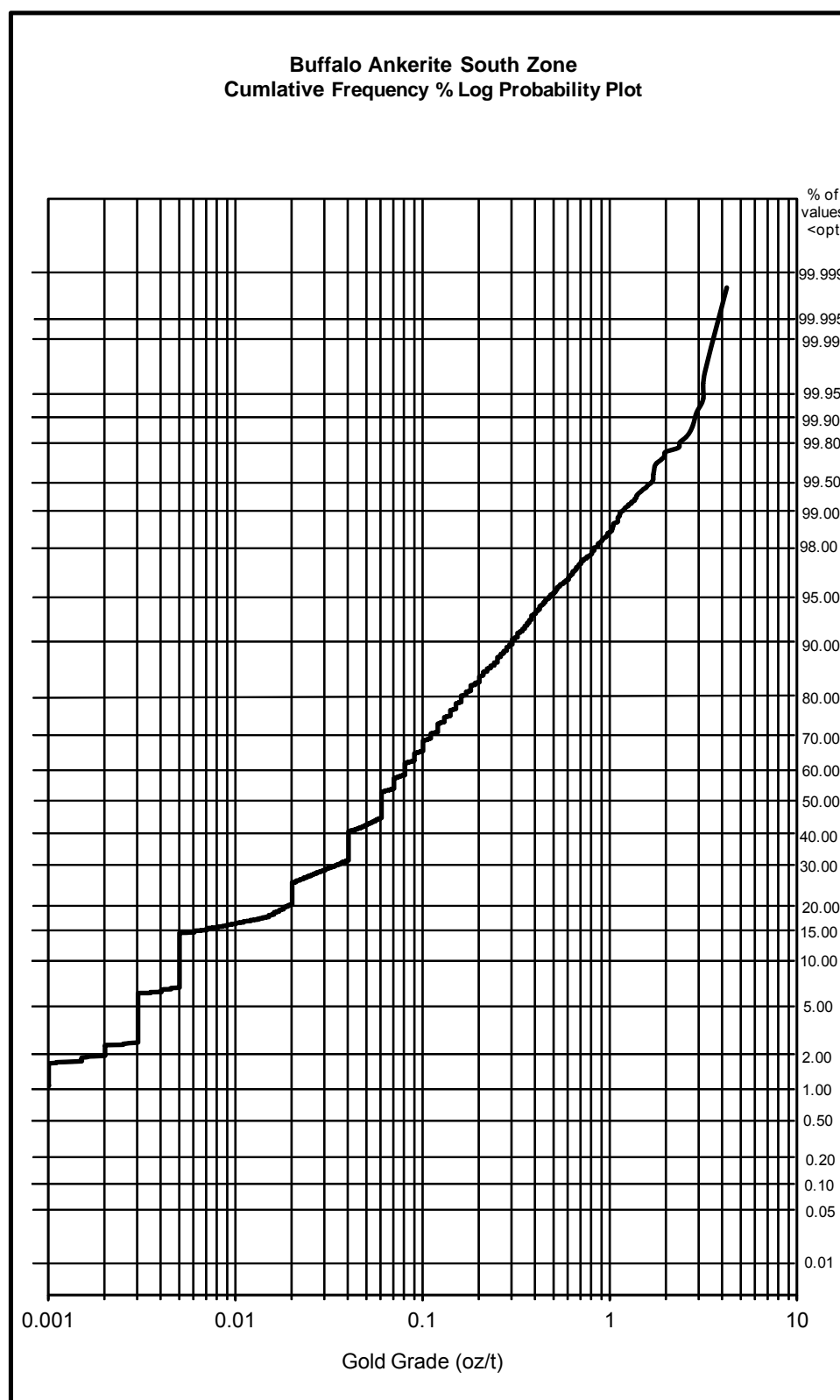
| Zone       | Max. Au<br>opt | Au<br>opt | Coef.<br>Var. | Au opt<br>Capped | Coeff.<br>Var. | No.<br>Capped | %ile | Metal<br>Loss% | Data<br>Loss% |
|------------|----------------|-----------|---------------|------------------|----------------|---------------|------|----------------|---------------|
| North Zone | 5.93           | 0.096     | 2.4           | 0.092            | 2.0            | 30            | 99.5 | 3%             | 0.49%         |
| South Zone | 4.20           | 0.118     | 1.8           | 0.115            | 1.6            | 13            | 99.5 | 2.5%           | 0.43%         |

Capping was applied to individual assays in the North and South zones prior to compositing.

**FIGURE 14-11 NORTH ZONE GOLD ASSAYS LOG-PROBABILITY PLOT**

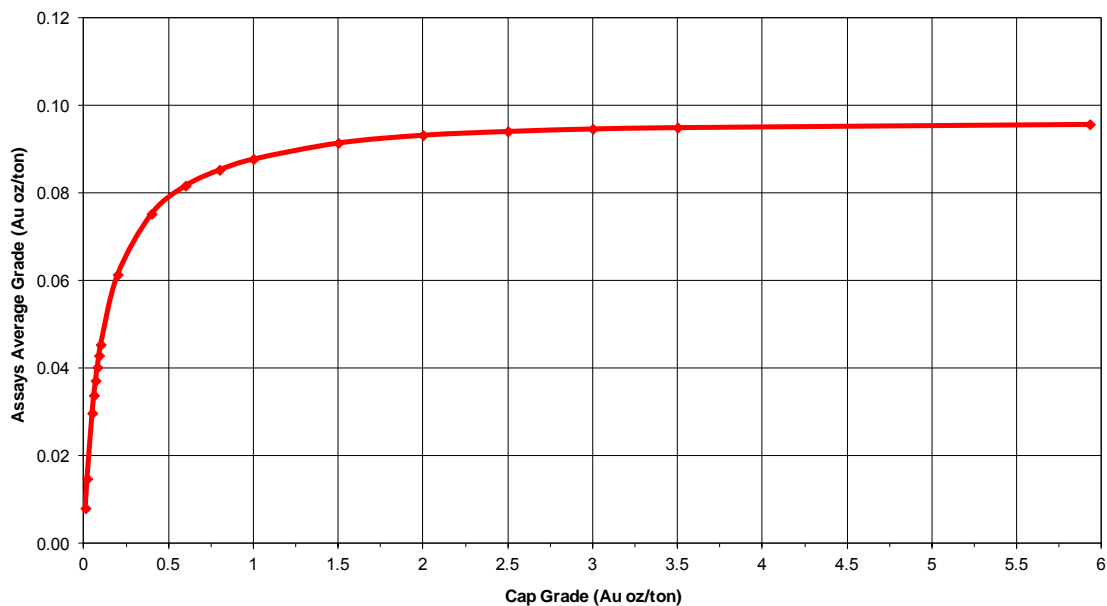


**FIGURE 14-12 SOUTH ZONE GOLD ASSAYS LOG-PROBABILITY PLOT**



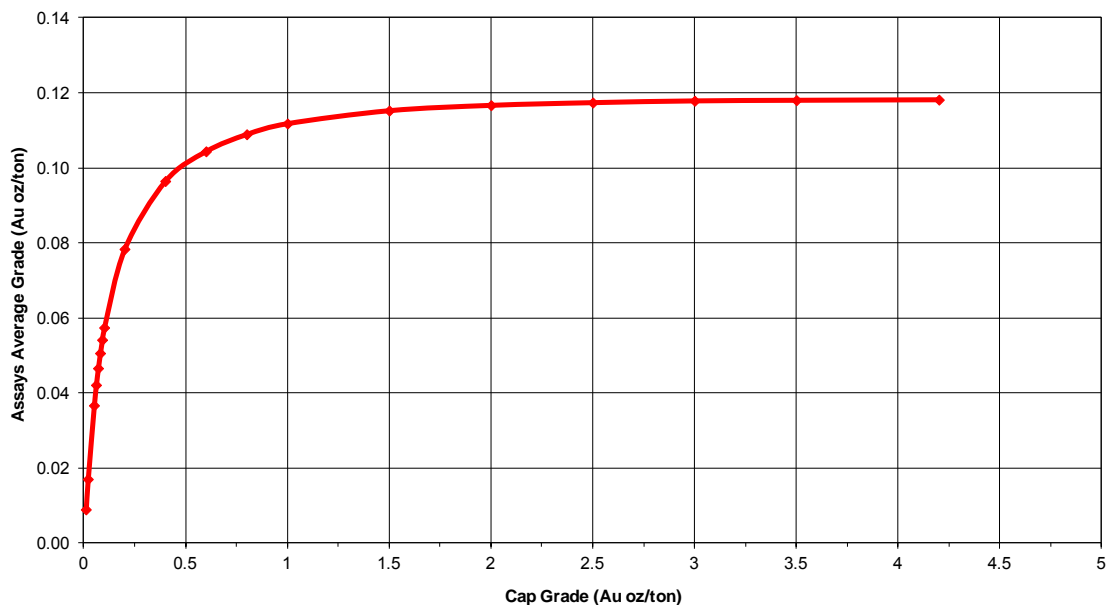
**FIGURE 14-13 ASSAY GRADE CUTTING CURVES (NORTH ZONE)**

Impact of Assay Capping on Average Grade



**FIGURE 14-14 ASSAY GRADE CUTTING CURVES (SOUTH ZONE)**

Impact of Assay Capping on Average Grade



## **BULK DENSITY**

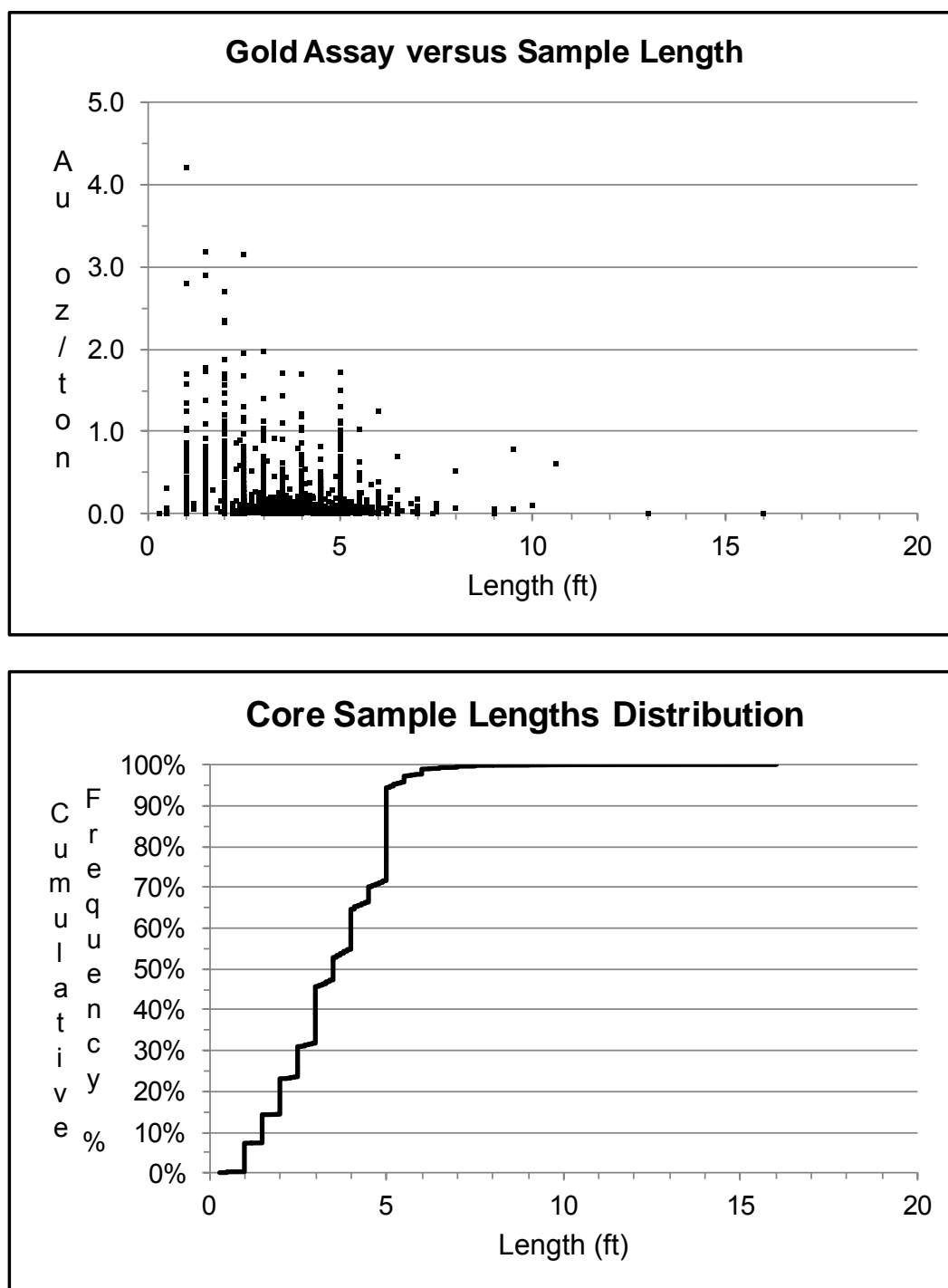
To convert volume to tons, a bulk density of 0.0888 tons/ft<sup>3</sup> (11.26 ft<sup>3</sup>/ton), equivalent to a specific gravity (SG) of 2.85, was applied uniformly throughout the North and South zones. SG gravity testing has been performed for 307 samples of various rock and mineral types. P&E's review of a subset (58) of these data related to tourmaline-quartz-carbonate-pyrite breccias, quartz veining and quartz feldspar porphyry indicates that an SG of 2.85 is appropriate for Buffalo Ankerite gold mineralization.

## **ASSAY COMPOSITING**

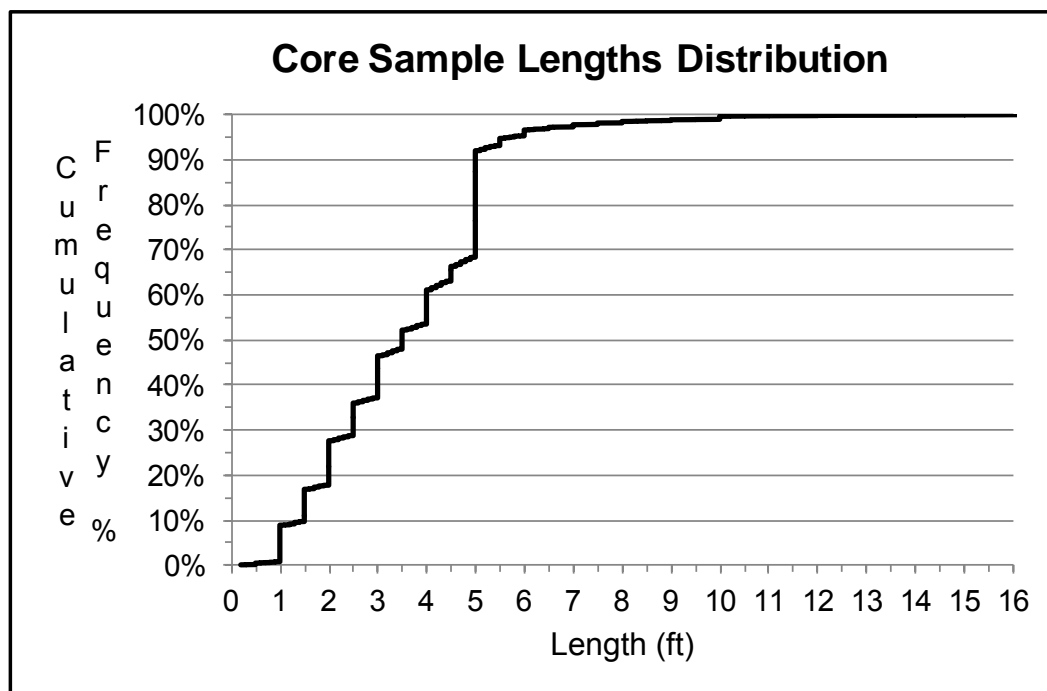
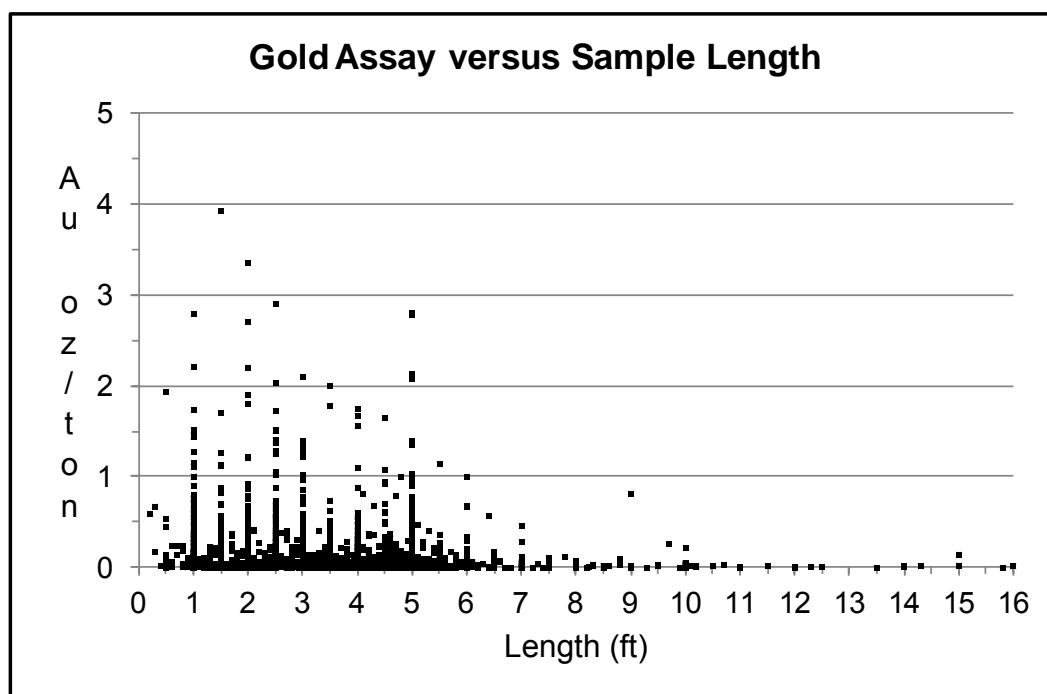
Assay composites at five foot lengths were generated down hole by length weighting the assays captured by GEMS in the zone wireframes. The five foot length is at the 94.4 percentile of the sample lengths distribution for the South Zone and 91.9 percentile for the North Zone (Figures 14-8 and 14-9). Assaying is generally continuous in the zones for surface drilling with assays generally only missing where holes traversed the open voids of stopes and drifts. For underground drilling, assaying was generally carried out only for identified mineralization thereby resulting in incomplete assaying across zone widths. For compositing the underground hole assays, explicit and implicit missing assays were set to zero grade whereas for surface holes missing assays/voids were ignored for the purpose of grade interpolation.

To regularize the composite lengths and cull length artifacts arising from irregularities in zone intercepts by GEMS, composite lengths shorter than 2.5 ft were omitted from the estimate for surface holes and composites less than two ft were omitted for underground holes where zone widths may be defined by single, narrow assay intervals at the zone walls. No apparent grade bias was introduced by this practice. Tables 14-14 and 14-15 present summary statistics for the 5 ft composites.

**FIGURE 14-15 SOUTH ZONE CORE SAMPLE LENGTH DISTRIBUTION**



**FIGURE 14-16 NORTH ZONE CORE SAMPLE LENGTH DISTRIBUTION**





**TABLE 14-14 NORTH ZONE COMPOSITE STATISTICS**  
**Lexam VG Gold Inc. – Buffalo Ankerite Property**

| Composites above 10,000 ft Elevation |             |        |               |
|--------------------------------------|-------------|--------|---------------|
| Statistic                            | Length (ft) | Au opt | Au opt Capped |
| Count                                | 1,986       | 1,986  | 1,986         |
| Sum                                  | 9,710.45    | -      | -             |
| Minimum                              | 2.00        | 0      | 0             |
| 25th Percentile                      | 5.00        | 0.003  | 0.003         |
| Median                               | 5.00        | 0.020  | 0.020         |
| 75th Percentile                      | 5.00        | 0.050  | 0.050         |
| Maximum                              | 5.00        | 0.970  | 0.902         |
| Mean                                 | 4.86        | 0.045  | 0.045         |
| Weighted Mean                        | -           | 0.045  | 0.045         |
| Variance                             | 0.27        | 0.007  | 0.006         |
| Standard Deviation                   | 0.52        | 0.081  | 0.080         |
| Coefficient of Variation             | 0.11        | 1.79   | 1.77          |
| Skewness                             | -3.88       | 4.77   | 4.56          |
| Kurtosis                             | 14.67       | 32.71  | 29.56         |
| 95th Percentile                      | 5.00        | 0.173  | 0.173         |
| 98th Percentile                      | 5.00        | 0.288  | 0.282         |
| 99th Percentile                      | 5.00        | 0.422  | 0.417         |
| 99.5th Percentile                    | 5.00        | 0.57   | 0.524         |

| Composites below 10,000 ft Elevation |             |        |               |
|--------------------------------------|-------------|--------|---------------|
| Statistic                            | Length (ft) | Au opt | Au opt Capped |
| Count                                | 4,232       | 4,232  | 4,232         |
| Sum                                  | 20,485.46   | -      | -             |
| Minimum                              | 2.00        | 0      | 0             |
| 25th Percentile                      | 5.00        | 0      | 0             |
| Median                               | 5.00        | 0.019  | 0.019         |
| 75th Percentile                      | 5.00        | 0.072  | 0.072         |
| Maximum                              | 5.00        | 2.800  | 1.500         |
| Mean                                 | 4.86        | 0.069  | 0.066         |
| Weighted Mean                        | -           | 0.069  | 0.066         |
| Variance                             | 0.27        | 0.025  | 0.018         |
| Standard Deviation                   | 0.52        | 0.159  | 0.135         |
| Coefficient of Variation             | 0.11        | 2.31   | 2.04          |
| Skewness                             | -3.66       | 7.13   | 4.89          |
| Kurtosis                             | 12.85       | 78.89  | 33.24         |
| 95th Percentile                      | 5.00        | 0.278  | 0.278         |
| 98th Percentile                      | 5.00        | 0.488  | 0.482         |
| 99th Percentile                      | 5.00        | 0.752  | 0.695         |
| 99.5th Percentile                    | 5.00        | 1.025  | 0.913         |

Note:

1. Composites total length exceeds assays total length due to incorporation of explicit and implicit missing assay intervals (dilution) not accounted for in the assay table and the generation of extra composites from long assay intervals.

**TABLE 14-15 SOUTH ZONE COMPOSITE STATISTICS**  
**Lexam VG Gold Inc. – Buffalo Ankerite Property**

| Composites above 10,000 ft Elevation |             |        |               |
|--------------------------------------|-------------|--------|---------------|
| Statistic                            | Length (ft) | Au opt | Au opt Capped |
| Count                                | 1,181       | 1,181  | 1,181         |
| Sum                                  | 5,726.45    | -      | -             |
| Minimum                              | 2.50        | 0      | 0             |
| 25th Percentile                      | 5.00        | 0.019  | 0.019         |
| Median                               | 5.00        | 0.038  | 0.038         |
| 75th Percentile                      | 5.00        | 0.076  | 0.076         |
| Maximum                              | 5.00        | 0.893  | 0.893         |
| Mean                                 | 4.85        | 0.067  | 0.066         |
| Weighted Mean                        | -           | 0.067  | 0.066         |
| Variance                             | 0.25        | 0.009  | 0.008         |
| Standard Deviation                   | 0.50        | 0.09   | 0.09          |
| Coefficient of Variation             | 0.10        | 1.38   | 1.36          |
| Skewness                             | -3.42       | 4.02   | 3.85          |
| Kurtosis                             | 10.54       | 22.39  | 20.41         |
| 95th Percentile                      | 5.00        | 0.222  | 0.222         |
| 98th Percentile                      | 5.00        | 0.363  | 0.363         |
| 99th Percentile                      | 5.00        | 0.438  | 0.438         |
| 99.5th Percentile                    | 5.00        | 0.606  | 0.604         |

| Composites below 10,000 ft Elevation |             |        |               |
|--------------------------------------|-------------|--------|---------------|
| Statistic                            | Length (ft) | Au opt | Au opt Capped |
| Count                                | 4,367       | 4,367  | 4,367         |
| Sum                                  | 20,979.83   | -      | -             |
| Minimum                              | 2.00        | 0      | 0             |
| 25th Percentile                      | 5.00        | 0      | 0             |
| Median                               | 5.00        | 0.033  | 0.033         |
| 75th Percentile                      | 5.00        | 0.090  | 0.090         |
| Maximum                              | 5.00        | 3.150  | 1.500         |
| Mean                                 | 4.86        | 0.077  | 0.075         |
| Weighted Mean                        | -           | 0.076  | 0.075         |
| Variance                             | 0.27        | 0.02   | 0.02          |
| Standard Deviation                   | 0.52        | 0.14   | 0.13          |
| Coefficient of Variation             | 0.11        | 1.87   | 1.74          |
| Skewness                             | -3.66       | 5.89   | 4.08          |
| Kurtosis                             | 12.85       | 69.17  | 23.78         |
| 95th Percentile                      | 5.00        | 0.306  | 0.304         |
| 98th Percentile                      | 5.00        | 0.481  | 0.480         |
| 99th Percentile                      | 5.00        | 0.729  | 0.679         |
| 99.5th Percentile                    | 5.00        | 0.896  | 0.858         |

Note:

- Composites total length exceeds assays total length due to incorporation of explicit and implicit missing assay intervals (dilution) not accounted for in the assay table and the generation of extra composites from long assay intervals

## BLOCK MODELS

Separate block models were constructed for the North and South Zones. Table 14-16 summarizes model origins and block parameters. The two models overlap in part with blocks in the shared space having centroids in common.

**TABLE 14-16 BLOCK MODEL SET-UP AND PARAMETERS**  
**Lexam VG Gold Inc. – Buffalo Ankerite Property**

| <b>North Zone</b> | <b>X</b> | <b>Y</b> | <b>Z</b> |
|-------------------|----------|----------|----------|
| Origin            | 3,000    | 5,690    | 11,500   |
| Block Size (ft)   | 10       | 10       | 10       |
| Number of Blocks  | 320      | 385      | 450      |
| Rotation          |          | 0        |          |
| <b>South Zone</b> |          |          |          |
| Origin            | 1,500    | 4,200    | 11,500   |
| Block Size (ft)   | 10       | 10       | 10       |
| Number of Blocks  | 550      | 280      | 350      |
| Rotation          |          | 0        |          |

The block models are oriented with X axis at 090° azimuth i.e. non-rotated, and each have block dimensions at 10 ft EW x 10 ft NS x 10 ft vertical. Block dimensions take into account the drill hole spacing on 20 ft (6.0 m) to >100 ft (30 m) sections, zone and stope widths. Since the boundaries of the zones are locally within several feet of one another and within the resource block dimensions (10 ft), three partial-percent models were created in GEMS for the South Zone and two partial-percent models for the North Zone so that varied percentages of the zones and waste could be coded into “Standard” models for GEMS reporting. In addition to the grade models, a mined block model for each zone was prepared from the workings solids in which the blocks occupying stopes, raises or drifts were coded and the percent mined subtracted from the resource blocks.

## VARIOGRAPHY

Linear semi-variograms (variograms) of the five foot resource composites were prepared down-hole for the North and South Zones to assess the gold nugget effect which was found to be relatively moderate at 20% for both zones. Three-dimensional variography, using variance normalized, nested spherical models and 50 ft lags, was carried out for the zones’ strikes and dips. The strike and dip variograms for the South Zone were not robust for low spread angles and omni-directional variograms at 90° spread angles were adopted for further variography which indicated ranges in the order of 100 ft. The North Zone variograms

were reasonable for strike and dip and showed better continuity/longer ranges from 119 ft up to 183 ft. Table 14-17 shows results of the variography. Variograms are presented in Appendix 4.

**TABLE 14-17 VARIOGRAM MAXIMUM RANGES**  
**Lexam VG Gold Inc. – Buffalo Ankerite Property**

| Variogram<br>North Zone                            | Range (ft) |
|--|------------|
| Omni; composites above 10,000' EL                  | 61         |
| Omni; composites below 10,000' EL                  | 85         |
| On strike (135°) below 10,000' EL 45° spread angle | 119        |
| Domain 414 on strike (169°) ; 45° spread angle     | 145        |
| Domain 414 dip; 45° spread angle                   | 168        |
| Domain 434 strike; 45° spread angle                | 183        |
| <b>South Zone</b>                                  |            |
| Omni; composites above 10,000' EL                  | 101        |
| Omni; all composites                               | 77         |
| Domain 3080; composites below 10,000' EL           | 95         |

## **BLOCK MODEL GRADE INTERPOLATION**

### **SEARCH STRATEGY AND GRADE INTERPOLATION**

Variography results, drill hole spacing and orientation of the domains within the North and South Zones guided the interpolation search strategy. The upper northeast portion of the North Zone has shallow westerly dips which steepen to -70° to -75° to the west. The South Zone domains dip steeply north at -60° in the west on the south flank of the syncline, flatten to sub horizontal where they plunge to the west in the central area, and dip steeply south in the northeast area on the north limb of the syncline. Consequently the block models were “mapped” into areas of similar dip and grade was interpolated within the mapped areas using search ellipses matched to domain trends. Two search ellipse orientations were employed for the North Zones and three orientations (steep north dip, flat west dip, steep south dip) were used for the South domains. Rotation of the ellipses followed the GEMS ZYZ convention that links ellipse axis rotation to the block model orientation.

The block models were divided into an open pit portion above the 10,000 ft elevation and an underground portion below 10,000 ft elevation. Grade interpolation for the open pit portion was based on composites located above the 10,000 ft elevation. Similarly the underground

portion of the block model was interpolated from composites lying below the 10,000 ft elevation.

Grade interpolation was carried out by ID<sup>3</sup> method in up to five passes (Table 14-18). Multiple passes were utilized to allow for progressive capture of sample data at widening spatial separation because of the variability of drill hole spacing from 20 ft in underground holes to several hundred feet for surface holes. This approach also suited the separation of open pit and underground composites at the 10,000 ft elevation. The fifth final pass was designed to complete the filling of the wireframe.

Small portions of four domains lying just above and below the 10,000 ft elevation had no available composites in either the underground or open pit sets, i.e. for the wireframe extending below the 10,000 ft elevation there were no underground composites and for the wireframe extending to above the 10,000 ft elevation, there were no open pit composites. Grade for these domains was populated in a sixth broad pass utilizing all composites. This did not impact on resources later determined to be in the Whittle open pit shell.

In P&E's opinion, the ID<sup>3</sup> method is reasonable since the nugget effect is relatively low (20%) and some smoothing is desirable. In addition, the variography is not particularly robust due to the low number of drill holes and samples for many South Zone domains, few drill holes per zone and the generally low number of samples per zone that would impact on the use of kriging as an alternative method. Composite sample minimums and maximums, and multiple expanding expanded passes were adopted to avoid over-smoothing and preserve local grade variability.

Because of areas in the North and South Zones have been subjected to more detailed and close spaced underground drilling, P&E examined South Zone domain SZ3-H, an extensive zone with underground and surface drilling and many intercepts, by means of cell declustering to assess whether sample clustering could affect ID interpolation. Declustered means varied mostly less than  $\pm 5\%$  from the composites average indicating no significant impact from clustering.

**TABLE 14-18 INTERPOLATION PARAMETERS AND SEARCH DISTANCES**
**Lexam VG Gold Inc. – Buffalo Ankerite Property**

| <b>North Zone</b>                          | <b>Pass 1</b> | <b>Pass 2</b> | <b>Pass 3</b> | <b>Pass 4</b> | <b>Pass 5</b> |
|--|---------------|---------------|---------------|---------------|---------------|
| Minimum Composites                         | 4             | 2             | 2             | 2             | 1             |
| Maximum Composites                         | 12            | 12            | 12            | 12            | 12            |
| Maximum Composites per Hole                | 2             | -             | -             | -             | -             |
| XYZ 10°/-75°/0° Search X (ft) <sup>1</sup> | 150           | 150           | 300           | 600           | 9999          |
| XYZ 10°/-75°/0° Search Y (ft)              | 125           | 125           | 250           | 500           | 9999          |
| XYZ 10°/-75°/0° Search Z (ft)              | 20            | 20            | 40            | 100           | 9999          |
| XYZ 10°/-20°/0° Search X (ft) <sup>2</sup> | 150           | 150           | 300           | -             | -             |
| XYZ 10°/-20°/0° Search Y (ft)              | 125           | 125           | 250           | -             | -             |
| XYZ 10°/-20°/0° Search Z (ft)              | 20            | 20            | 50            | -             | -             |
| XYZ 15°/-45°/0° Search X (ft) <sup>3</sup> | 150           | 150           | 300           | 600           | 9999          |
| XYZ 15°/-45°/0° Search Y (ft)              | 125           | 125           | 250           | 500           | 9999          |
| XYZ 15°/-45°/0° Search Z (ft)              | 20            | 20            | 40            | 80            | 9999          |
| <b>South Zone</b>                          | <b>Pass 1</b> | <b>Pass 2</b> | <b>Pass 3</b> | <b>Pass 4</b> | <b>Pass 5</b> |
| Minimum Composites                         | 4             | 2             | 2             | 2             | 1             |
| Maximum Composites                         | 12            | 12            | 12            | 12            | 12            |
| Maximum Composites per Hole                | 2             | -             | -             | -             | -             |
| XYZ 0°/-61°/30° Search X (ft) <sup>4</sup> | 80            | 80            | 160           | 320           | 9999          |
| XYZ 0°/-61°/30° Search Y (ft)              | 100           | 100           | 200           | 400           | 9999          |
| XYZ 0°/-61°/30° Search Z (ft)              | 40            | 40            | 80            | 120           | 9999          |
| XYZ 0°/-30°/0° Search X (ft) <sup>5</sup>  | 100           | 100           | 200           | 400           | 9999          |
| XYZ 0°/-30°/0° Search Y (ft)               | 80            | 80            | 160           | 320           | 9999          |
| XYZ 0°/-30°/0° Search Z (ft)               | 20            | 20            | 40            | 80            | 9999          |
| XYZ 20°/60°/10° Search X (ft) <sup>6</sup> | 80            | 80            | 160           | 320           | 9999          |
| XYZ 20°/60°/10° Search Y (ft)              | 100           | 100           | 200           | 400           | 9999          |
| XYZ 20°/60°/10° Search Z (ft)              | 40            | 40            | 60            | 120           | 9999          |

Notes:

1. Steep west dip
2. Shallow west dip
3. -45° west dip for domain 415
4. Steep north dip
5. Flat dip, west plunge
6. Steep south dip

## RESOURCE CLASSIFICATION

In P&E's opinion, the level of drilling, assaying and exploration work completed to mid-2011 is sufficient to show that the Buffalo Ankerite North and South Zones have the size and average gold grades to indicate reasonable potential for economic extraction at current gold prices and thus qualify them as Mineral Resources under CIM definition standards. Mineral

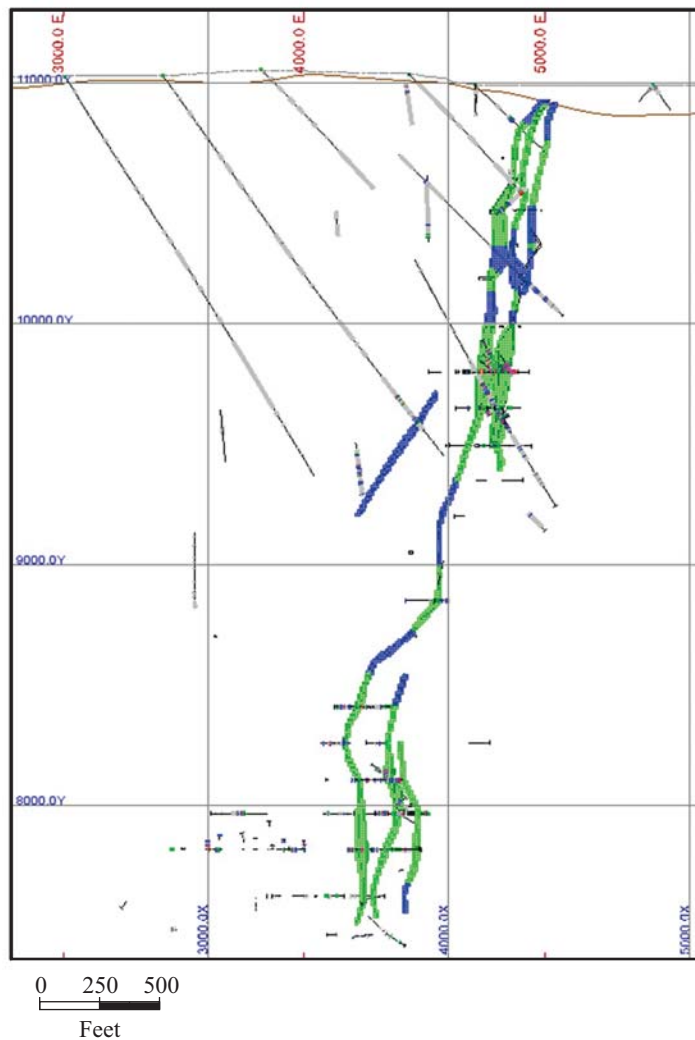
Resources were classified as Indicated and Inferred based on the drill hole and sampling data spacing as well as geological interpretation of structure and grade continuity as indicated from variography. The continuity of the gold bearing structures has been well established by drilling and past mining and drifting on the structures, however, grade data is limited to underground and surface drilling with underground chip/channel sampling in stopes and drifts unavailable in digital format. Drill hole intercepts in the domains range from 20 ft to several hundred feet. Where fan drilling was undertaken from surface in the South Zone, domain intercepts are progressively wider at depth and confidence in the grade estimation for some zones is low resulting in Inferred Resource classification.

For the North Zone, P&E classified Indicated Resources as blocks lying within 150 ft of a drill hole (variogram range) and where two holes are present in this distance. Blocks in the model were coded using a 150 ft spherical search radius and with the number of holes found in the search. This approach worked well for the North Zone. In the South Zone, a similar approach was employed based on a 100 ft distance to the nearest composite and the use of two holes from the first interpolation pass. The areas outlined were not as definitive as for the North zone so the results were used as a guide to build solids encompassing the Indicated Resources. The solids were built from polylines on 100 ft cross sections. Blocks contained within both the classification solids and the mineral wireframes were coded as Indicated Resources. Blocks within the mineral wireframes but outside the classifications solids were classified as Inferred Resources. The Indicated resource blocks formed well defined areas where drilling is spaced at 100 ft near surface in the east and central areas of the South Zone and where underground drill holes tested the zones in the west portion of the South Zone below the 10,000 ft elevation.

Figures 14-17 and 14-18 illustrate Indicated Resources and Inferred Resources on two cross sections for each zone. Indicated Resource blocks are shown in green.



Cross Section 7000 N



Cross Section 8100 N

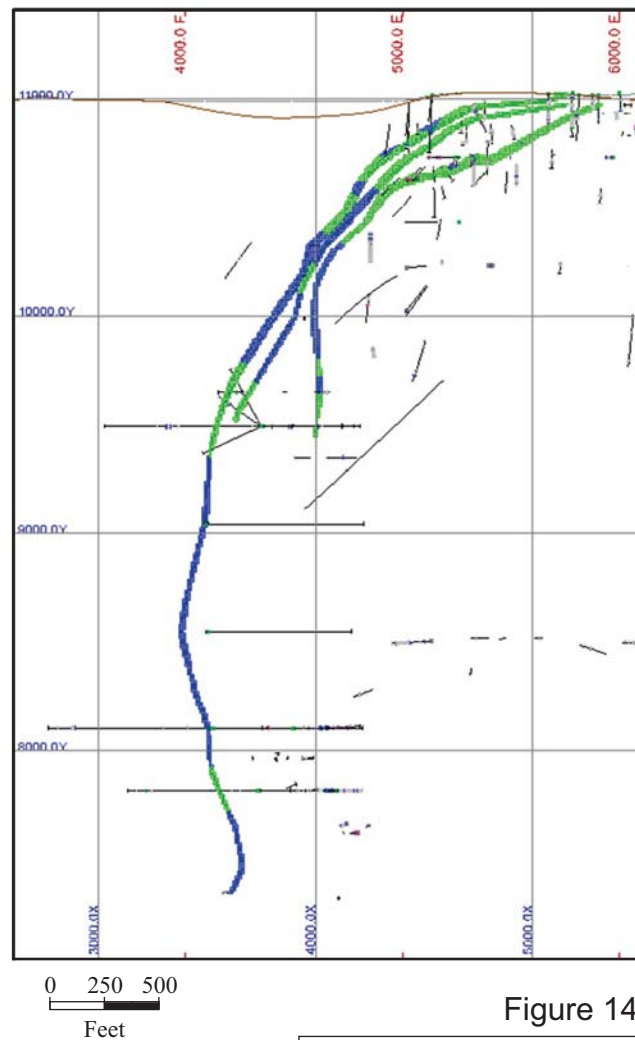


Figure 14-17

**Legend: Classification**

- Inferred
- Indicated

**Lexam VG Gold Inc.**

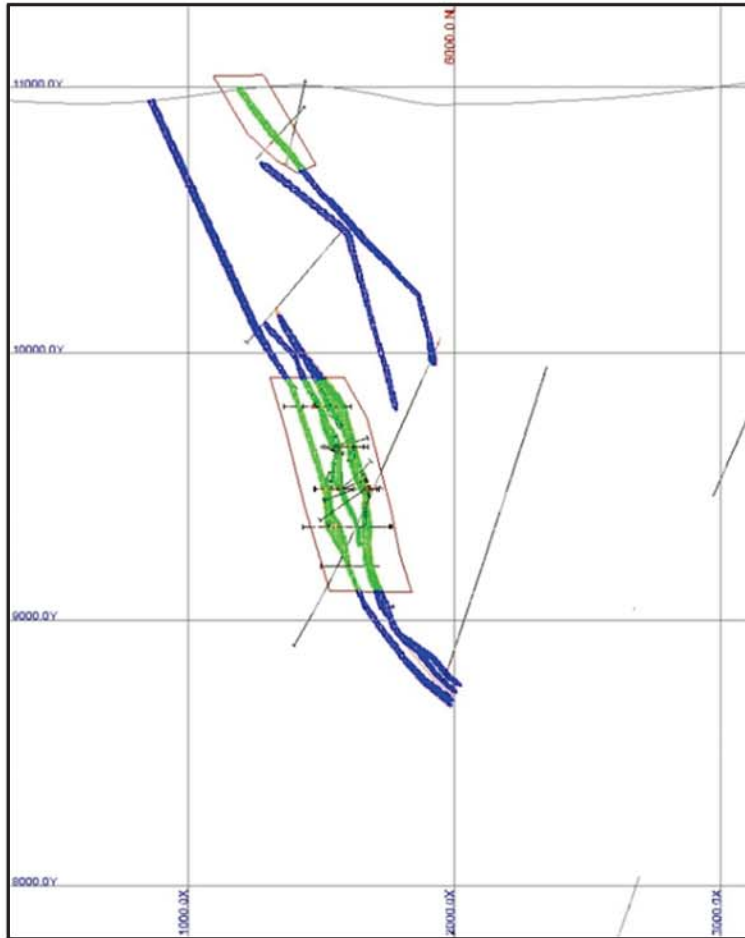
***Buffalo Ankerite Property***

*Porcupine Mining Division*

*North-Eastern Ontario, Canada*

**Cross Sections Showing Resource  
Classification for the North Zone**

**Cross Section 3620 E**

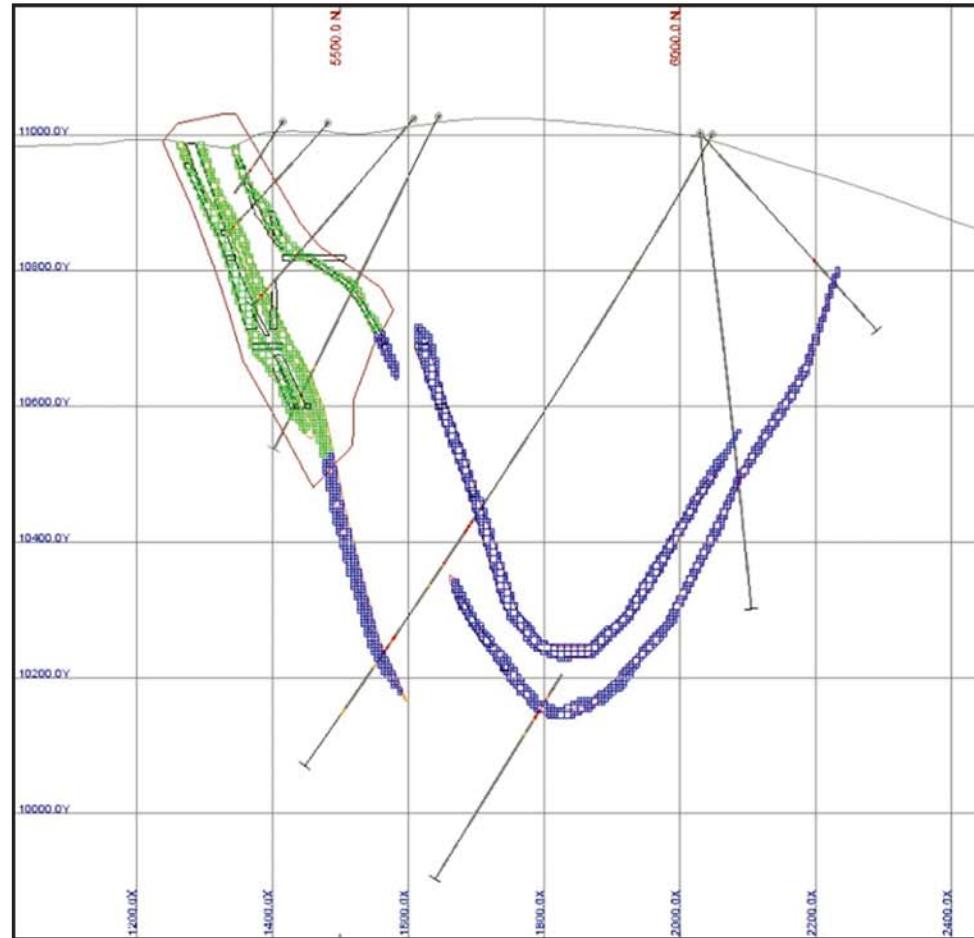


0 500 1000  
Feet

**Legend: Classification**

■ Inferred  
■ Indicated

**Cross Section 5620**



0 100 200  
Feet

Figure 14-18

**Lexam VG Gold Inc.**

**Buffalo Ankerite Property**  
Porcupine Mining Division  
North-Eastern Ontario, Canada  
**Cross Sections Showing Resource  
Classification Solid and Blocks  
for the South Zone**

## BLOCK MODEL INVENTORY

The solids representing the underground drifts and digitized mined-out stopes were used to prepare percent block models of the openings in GEMS. The percents of the mined blocks were subtracted from the resource zones' block percents to arrive at the post mining percent remaining in the resource zones and this percentage was used for resource reporting. P&E removed 1.79 million tons and 120,000 ounces from the North Zone, and 3.34 million tons and 238,000 ounces from the South Zone, on a global resource basis.

Tables 14-19 and 14-20 provide the results of grade interpolation for the block models at various gold cut-off grades.

**TABLE 14-19 BLOCK MODEL INVENTORY**  
**Lexam VG Gold Inc. – Buffalo Ankerite Property**

### North Zone (Above 10,000 ft EL)

| Cut-Off<br>Au opt | Indicated      |           |                   | Inferred       |           |                   |
|-------------------|----------------|-----------|-------------------|----------------|-----------|-------------------|
|                   | Tons<br>(000s) | Au<br>opt | Cut-Off<br>Au opt | Tons<br>(000s) | Au<br>opt | Cut-Off<br>Au opt |
| Wireframe         | 4,379          | 0.045     | 195               | 2320           | 0.050     | 115               |
| 0.006             | 3,927          | 0.049     | 194               | 2113           | 0.054     | 114               |
| 0.009             | 3,724          | 0.052     | 193               | 1990           | 0.057     | 113               |
| 0.015             | 3,333          | 0.056     | 188               | 1836           | 0.061     | 112               |
| 0.030             | 2,299          | 0.072     | 165               | 1402           | 0.073     | 102               |
| 0.045             | 1,506          | 0.090     | 135               | 1025           | 0.086     | 87.9              |
| 0.050             | 1,313          | 0.096     | 126               | 911            | 0.090     | 82.4              |
| 0.075             | 697            | 0.127     | 88.6              | 456            | 0.118     | 54.0              |
| 0.100             | 398            | 0.158     | 63.0              | 197            | 0.162     | 31.8              |
| 0.125             | 245            | 0.188     | 46.0              | 115            | 0.198     | 22.8              |
| 0.150             | 151            | 0.220     | 33.1              | 72.4           | 0.234     | 16.9              |

### North Zone (below 10,000 ft EL)

| Cut-Off<br>Au opt | Indicated      |           |                     | Inferred       |           |                     |
|-------------------|----------------|-----------|---------------------|----------------|-----------|---------------------|
|                   | Tons<br>(000s) | Au<br>opt | Au Ounces<br>(000s) | Tons<br>(000s) | Au<br>opt | Au Ounces<br>(000s) |
| Wireframe         | 6,395          | 0.060     | 385                 | 2,888          | 0.053     | 153                 |
| 0.006             | 5,729          | 0.067     | 383                 | 2,613          | 0.059     | 153                 |
| 0.009             | 5,470          | 0.070     | 381                 | 2,508          | 0.061     | 152                 |
| 0.015             | 4,909          | 0.076     | 375                 | 2,264          | 0.066     | 149                 |
| 0.030             | 3,744          | 0.093     | 349                 | 1,781          | 0.078     | 138                 |
| 0.045             | 2,830          | 0.111     | 315                 | 1,433          | 0.088     | 126                 |

| Cut-Off<br>Au opt | Tons<br>(000s) | Indicated |                     | Tons<br>(000s) | Inferred  |                     |
|-------------------|----------------|-----------|---------------------|----------------|-----------|---------------------|
|                   |                | Au<br>opt | Au Ounces<br>(000s) |                | Au<br>opt | Au Ounces<br>(000s) |
| 0.050             | 2,571          | 0.118     | 302                 | 1,322          | 0.091     | 120                 |
| 0.075             | 1,593          | 0.152     | 242                 | 637            | 0.124     | 79.2                |
| 0.100             | 1,028          | 0.189     | 194                 | 276            | 0.176     | 48.5                |
| 0.125             | 724            | 0.221     | 160                 | 126            | 0.251     | 31.5                |
| 0.150             | 531            | 0.252     | 134                 | 72.0           | 0.337     | 24.3                |

Notes:

1. The block model mineral inventory was estimated by conventional 3D block modelling based on wireframing at a 0.015 opt (0.5 g/t Au) cut-off above 10,000 ft elevation, at a 0.045 opt (1.54 g/t Au) cut-off below 10,000 ft elevation, and ID<sup>3</sup> grade interpolation.
2. The Qualified Persons for this Mineral Resource estimate are: Richard Routledge, P.Geo., and Eugene Puritch, P.Eng.
3. A uniform bulk density of 0.0888 ton/ft<sup>3</sup> (2.85 tonnes/m<sup>3</sup>) has been applied for volume to tons conversion.
4. Mineral inventory in the block model is estimated from surface at approximately 11,050 ft elevation to the 7,290 ft elevation or ±3,740 ft depth (1,140 m depth).
5. Block model mineral inventory does not constitute Mineral Resources or Mineral Reserves under CIM definitions and does not have demonstrated economic viability. The mineral inventory contains the Indicated and Inferred Mineral Resources that have been outlined by Whittle™ pit design.

**TABLE 14-20 BLOCK MODEL INVENTORY**  
**Lexam VG Gold Inc. – Buffalo Ankerite Property**

**South Zone (Above 10,000 ft EL)**

| Cut-Off<br>Au opt | Indicated      |           |                   | Inferred       |           |                   |
|-------------------|----------------|-----------|-------------------|----------------|-----------|-------------------|
|                   | Tons<br>(000s) | Au<br>opt | Cut-Off<br>Au opt | Tons<br>(000s) | Au<br>opt | Cut-Off<br>Au opt |
| Wireframe         | 3,318          | 0.067     | 224               | 8,420          | 0.057     | 479               |
| 0.006             | 3,299          | 0.068     | 224               | 8,335          | 0.057     | 478               |
| 0.009             | 3,288          | 0.068     | 224               | 8,322          | 0.057     | 478               |
| 0.015             | 3,149          | 0.070     | 222               | 7,973          | 0.059     | 474               |
| 0.030             | 2,516          | 0.082     | 207               | 6,844          | 0.065     | 447               |
| 0.045             | 1,777          | 0.101     | 180               | 4,747          | 0.078     | 368               |
| 0.050             | 1,615          | 0.107     | 172               | 4,068          | 0.083     | 336               |
| 0.075             | 927            | 0.140     | 130               | 1,710          | 0.113     | 193               |
| 0.100             | 609            | 0.168     | 103               | 893            | 0.136     | 122               |
| 0.125             | 368            | 0.205     | 75.4              | 395            | 0.166     | 65.5              |
| 0.150             | 252            | 0.236     | 59.5              | 209            | 0.193     | 40.5              |

**South Zone (below 10,000 ft EL)**

| Cut-Off<br>Au opt | Tons<br>(000s) | Indicated |                     | Tons<br>(000s) | Inferred  |                     |
|-------------------|----------------|-----------|---------------------|----------------|-----------|---------------------|
|                   |                | Au<br>opt | Au Ounces<br>(000s) |                | Au<br>opt | Au Ounces<br>(000s) |
| Wireframe         | 5,335          | 0.069     | 367                 | 4,348          | 0.064     | 280                 |
| 0.006             | 5,140          | 0.071     | 367                 | 4,272          | 0.065     | 280                 |
| 0.009             | 5,026          | 0.073     | 366                 | 4,244          | 0.066     | 280                 |
| 0.015             | 4,778          | 0.076     | 363                 | 4,129          | 0.067     | 278                 |
| 0.030             | 4,037          | 0.086     | 346                 | 3,588          | 0.074     | 266                 |
| 0.045             | 3,231          | 0.098     | 316                 | 2,539          | 0.089     | 226                 |
| 0.050             | 2,973          | 0.102     | 304                 | 2,262          | 0.094     | 213                 |
| 0.075             | 1,786          | 0.129     | 230                 | 1,387          | 0.114     | 159                 |
| 0.100             | 1,039          | 0.159     | 166                 | 593            | 0.155     | 91.6                |
| 0.125             | 660            | 0.187     | 123                 | 294            | 0.202     | 59.3                |
| 0.150             | 195            | 0.219     | 88.9                | 195            | 0.235     | 45.8                |

Notes:

1. The block model mineral inventory was estimated by conventional 3D block modelling based on wireframing at a 0.015 opt (0.5 g/t Au) cut-off above 10,000 ft elevation, at a 0.045 opt (1.54 g/t Au) cut-off below 10,000 ft elevation, and ID<sup>3</sup> grade interpolation.
2. The Qualified Persons for this Mineral Resource estimate are: Richard Routledge, P.Geo., and Eugene Puritch, P.Eng.
3. A uniform bulk density of 0.0888 ton/ft<sup>3</sup> (2.85 tonnes/m<sup>3</sup>) has been applied for volume to tons conversion.
4. Mineral inventory in the block model is estimated from surface at approximately 11,050 ft elevation to the 7,290 ft elevation or ±3,740 ft depth (1,140 m depth).
5. Block model mineral inventory does not constitute Mineral Resources or Mineral Reserves under CIM definitions and does not have demonstrated economic viability. The mineral inventory contains the Indicated and Inferred Mineral Resources that have been outlined by Whittle™ pit design.

## RESOURCE REPORTING

The block models to the 10,000 ft elevation for the North and South Zones were exported to Whittle open pit optimization software for preliminary open pit design and to enable the reporting of open pit resources.

The Whittle designed pit is based on parameters listed in Table 14-21.

**TABLE 14-21 WHITTLE INPUT PARAMETERS**  
**Lexam VG Gold Inc. – Buffalo Ankerite Property**

| Item                             | Value        |
|----------------------------------|--------------|
| Gold Price                       | US\$1,600/oz |
| Process Recovery                 | 90%          |
| Pit Slopes                       | 45°          |
| Overburden Stripping             | \$1.22/st    |
| Mineralization/Waste Mining Cost | \$1.68/st    |
| Process Cost                     | \$11.35/st   |
| G&A                              | \$3.16/st    |
| Pit Discard Cut-Off Grade        | 0.01 opt     |

Ramp design and pit floor modifications were not done to finalize the pit at this resource estimation stage. Such work has an impact on the stripping ratio and on the in-pit resources. In addition, there is no geotechnical information available to confirm the pit slopes and their modification will also impact on the stripping ratio and the in-pit resources. Material in the block modeled mineral wireframes lying outside the pit shells is reported as underground resources where resource blocks meet the cut-off grade of 0.075 opt Au.

The resulting dipper pits were used to report in-pit Mineral Resources (Figures 14-19 to 14-22).



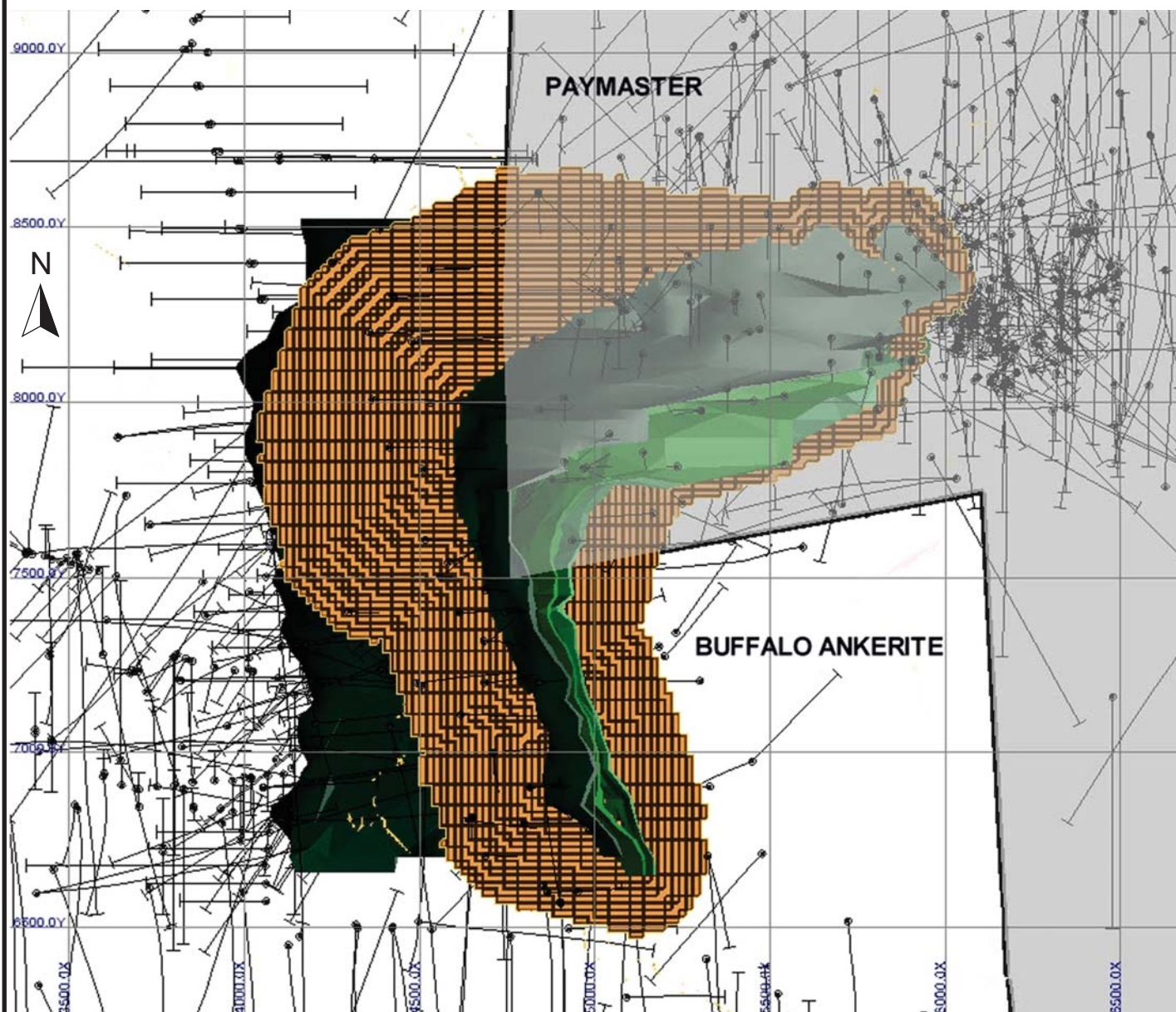


Figure 14-19

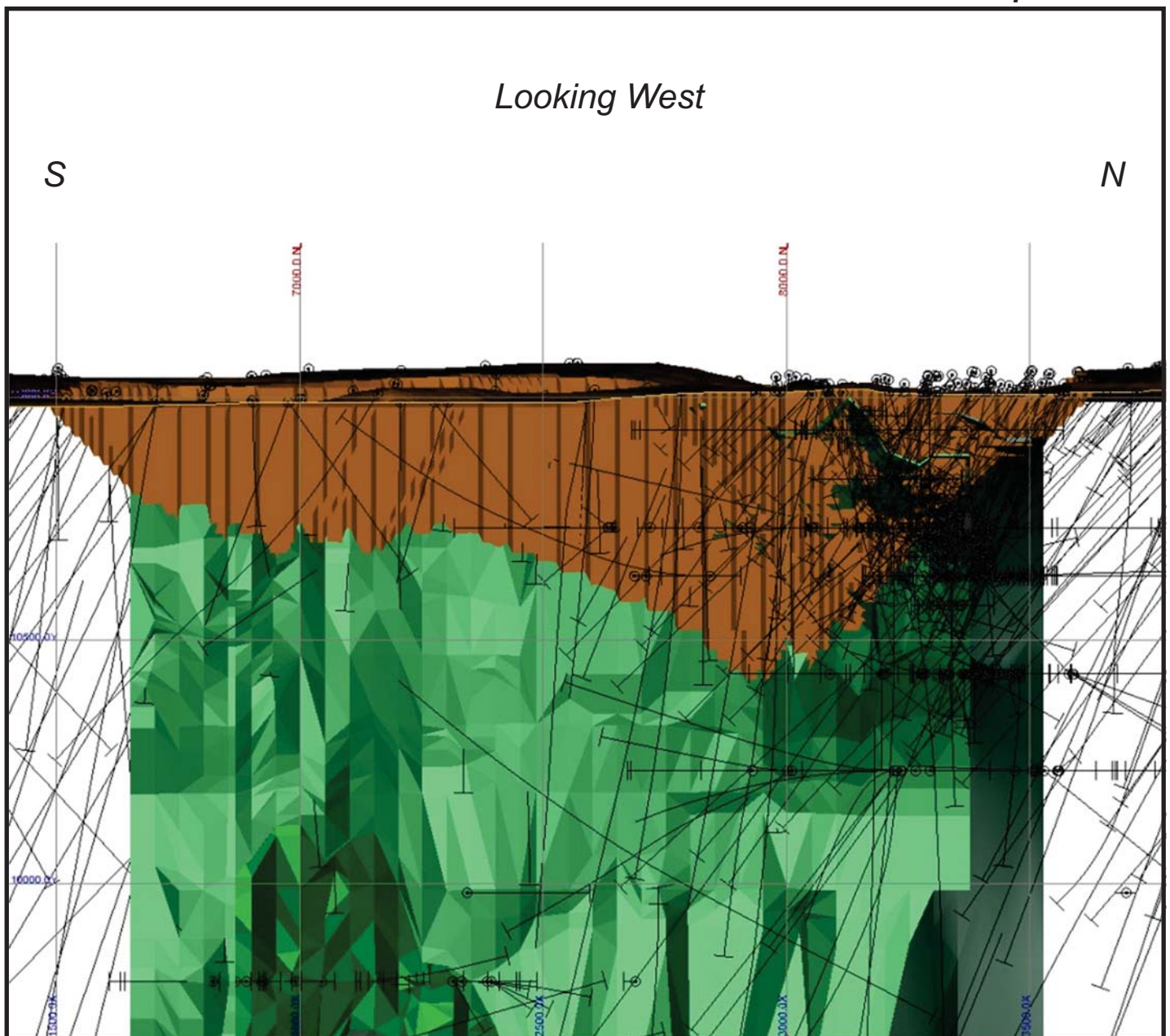
0 250 500 750 1000  
Feet

**Lexam VG Gold Inc.**  
***Buffalo Ankerite Property***  
*Porcupine Mining Division*  
*North-Eastern Ontario, Canada*  
**Plan and Long Section of**  
**Whittle Dipper Pit and North Zone**  
**Mineral Wireframes - Plan View**

June 2014

Source: P & E Mining Consultants Inc., 2013.





0 100 200 300 400 500  
Feet

Figure 14-20

**Lexam VG Gold Inc.**

***Buffalo Ankerite Property***  
*Porcupine Mining Division*  
*North-Eastern Ontario, Canada*  
**Composite Longitudinal Section**

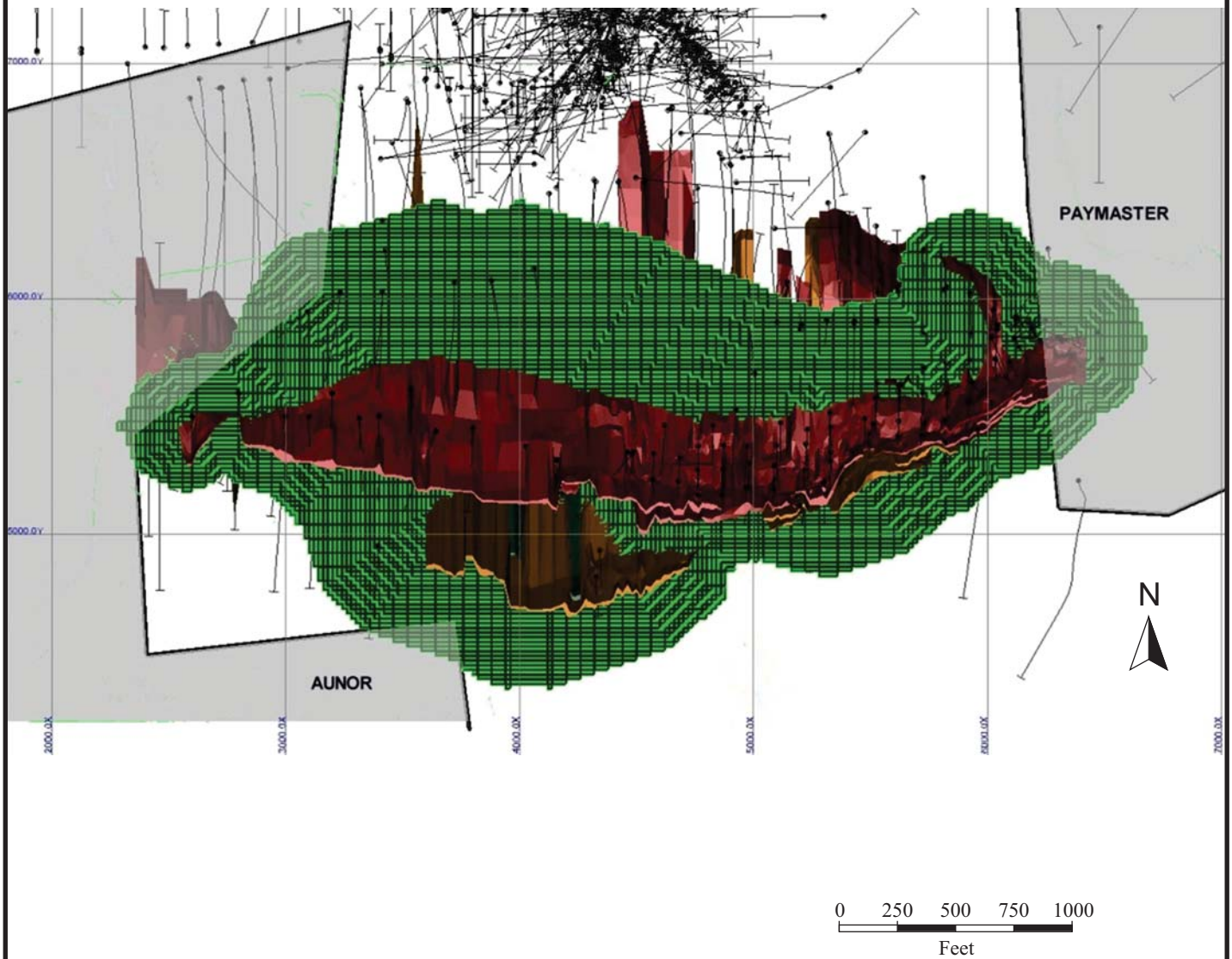


Figure 14-21

**Lexam VG Gold Inc.**  
**Buffalo Ankerite Property**  
 Porcupine Mining Division  
 North-Eastern Ontario, Canada  
 Plan and Long Section of  
 Whittle Dipper Pit and South Zone  
 Mineral Wireframes - Plan View

Looking North

W

E

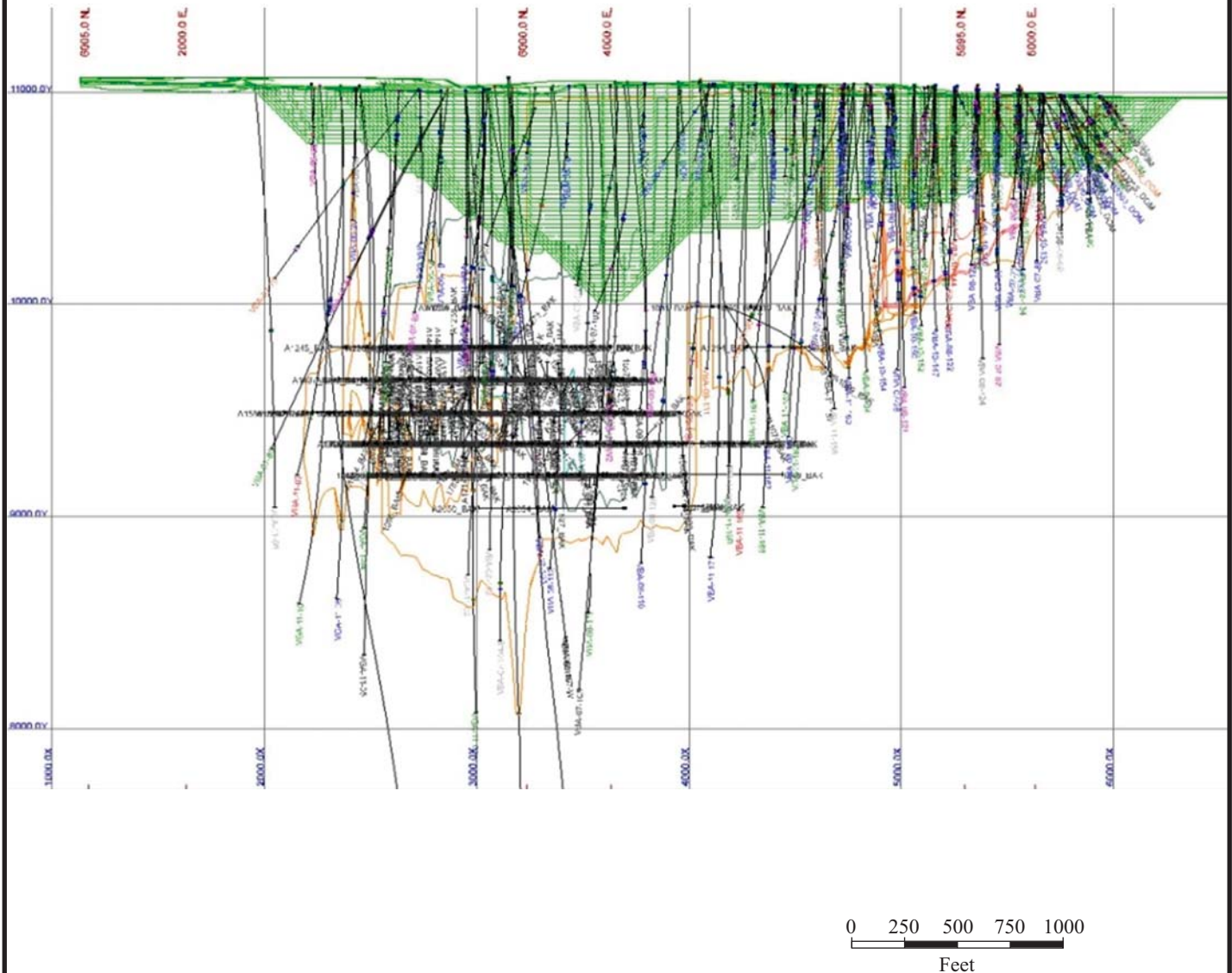


Figure 14-22

**Lexam VG Gold Inc.**

***Buffalo Ankerite Property***  
*Porcupine Mining Division*  
*North-Eastern Ontario, Canada*  
**Composite Longitudinal Section**



Table 14-22 summarizes the in-pit and underground Mineral Resources for the North Zone at various cut-off grades for the Buffalo Ankerite Property. Table 14-23 summarizes in-pit and underground Mineral Resources for the South Zone on the Buffalo Ankerite Property. P&E recommends that the in-pit resources at the 0.015 opt Au cut-off, and the underground resource at 0.075 opt Au cut-off, be used for public disclosure and further economic evaluation.

**TABLE 14-22 BUFFALO ANKERITE NORTH ZONE MINERAL RESOURCES**  
Lexam VG Gold Inc. – Buffalo Ankerite Property

**North Zone Within Pit Resources**

| Cut-Off Grade<br>(opt Au) | Tons<br>(000) | Indicated         |                               | Tons<br>(000) | Inferred          |                               |
|---------------------------|---------------|-------------------|-------------------------------|---------------|-------------------|-------------------------------|
|                           |               | Grade<br>(opt Au) | Contained Gold<br>(000 oz Au) |               | Grade<br>(opt Au) | Contained Gold<br>(000 oz Au) |
| Wireframe                 | 622           | 0.062             | 38.3                          | 209           | 0.067             | 13.9                          |
| 0.015                     | 532           | 0.071             | 37.6                          | 198           | 0.070             | 13.8                          |
| 0.030                     | 430           | 0.082             | 35.3                          | 157           | 0.082             | 12.9                          |
| 0.045                     | 308           | 0.100             | 30.8                          | 122           | 0.095             | 11.6                          |
| 0.050                     | 283           | 0.105             | 29.6                          | 115           | 0.098             | 11.3                          |
| 0.075                     | 163           | 0.136             | 22.2                          | 60.6          | 0.129             | 7.80                          |
| 0.100                     | 96.4          | 0.171             | 16.5                          | 29.3          | 0.174             | 5.08                          |
| 0.125                     | 62.1          | 0.204             | 12.7                          | 22.3          | 0.194             | 4.33                          |
| 0.150                     | 40.5          | 0.240             | 9.72                          | 15.6          | 0.217             | 3.39                          |

**North Zone Underground Resources**

| Cut-Off Grade<br>(opt Au) | Tons<br>(000) | Indicated         |                               | Tons<br>(000) | Inferred          |                               |
|---------------------------|---------------|-------------------|-------------------------------|---------------|-------------------|-------------------------------|
|                           |               | Grade<br>(opt Au) | Contained Gold<br>(000 oz Au) |               | Grade<br>(opt Au) | Contained Gold<br>(000 oz Au) |
| Wireframe                 | 7,535         | 0.058             | 435                           | 4,837         | 0.051             | 249                           |
| 0.015                     | 5,748         | 0.074             | 423                           | 3,780         | 0.064             | 242                           |
| 0.030                     | 4,338         | 0.090             | 392                           | 2,947         | 0.076             | 223                           |
| 0.045                     | 3,232         | 0.108             | 350                           | 2,295         | 0.087             | 199                           |
| 0.050                     | 2,919         | 0.115             | 336                           | 2,082         | 0.091             | 189                           |
| 0.075                     | 1,779         | 0.149             | 266                           | 1,017         | 0.122             | 124                           |
| 0.100                     | 1,219         | 0.186             | 210                           | 440           | 0.170             | 74.8                          |
| 0.125                     | 780           | 0.219             | 171                           | 217           | 0.229             | 49.7                          |
| 0.150                     | 562           | 0.251             | 141                           | 128           | 0.294             | 37.7                          |

Notes:

1. CIM definitions were followed for Mineral Resources.
2. The Qualified Persons for this Mineral Resource estimate are: Richard Routledge, P.Geo., and Eugene Puritch, P.Eng.

3. Mineral Resources are estimated by conventional 3D block modelling and ID<sup>3</sup> grade interpolation based on wireframing at a 0.015 opt Au cut-off for open pit and 0.045 opt Au cut-off for underground.
4. Gold price for the estimate is US\$1,600/oz Au.
5. A uniform bulk density of 0.0888 tons/ft<sup>3</sup> (2.85 tonnes/m<sup>3</sup>) has been applied for rock volume to tons conversion. Overburden bulk density is 0.0562 tons/ft<sup>3</sup> (1.80 tonnes/m<sup>3</sup>).
6. Open pit Mineral Resources are estimated from surface to the 10,360 ft elevation (650 ft or 198 m depth) and underground resource below the pit to the 7,290 ft elevation, a depth of (3,740 ft (1,140 m)).
7. Classification of Indicated Resources is based on variogram ranges which indicate grade continuity of 100 ft to 150 ft, the drill hole spacing and geologic interpretation.
8. The open pit Mineral Resource was determined within a Whittle™ pit shell with 45 degree slopes utilizing ore and waste mining costs of C\$1.68/ton and \$1.32/ton for overburden.
9. Costs used to determine the resource cut-off grades were processing at \$11.35/ton and G&A \$3.16/ton. Gold process recovery is 90%.

**TABLE 14-23 BUFFALO ANKERITE SOUTH ZONE MINERAL RESOURCES**  
**Lexam VG Gold Inc. – Buffalo Ankerite Property**

**South Zone Within Pit Resources**

| Cut-Off Grade<br>(opt Au) | Tons<br>(000) | Indicated         |                               | Tons<br>(000) | Inferred          |                               |
|---------------------------|---------------|-------------------|-------------------------------|---------------|-------------------|-------------------------------|
|                           |               | Grade<br>(opt Au) | Contained Gold<br>(000 oz Au) |               | Grade<br>(opt Au) | Contained Gold<br>(000 oz Au) |
| Wireframe                 | 2,744         | 0.072             | 199                           | 2,975         | 0.063             | 187                           |
| 0.015                     | 2,622         | 0.075             | 197                           | 2,707         | 0.068             | 183                           |
| 0.030                     | 2,108         | 0.088             | 185                           | 2,415         | 0.073             | 176                           |
| 0.045                     | 1,572         | 0.105             | 165                           | 2,043         | 0.079             | 162                           |
| 0.050                     | 1,427         | 0.111             | 158                           | 1,768         | 0.084             | 149                           |
| 0.075                     | 874           | 0.143             | 125                           | 700           | 0.119             | 83                            |
| 0.100                     | 598           | 0.169             | 101                           | 427           | 0.140             | 60                            |
| 0.125                     | 361           | 0.206             | 74                            | 156           | 0.185             | 29                            |
| 0.150                     | 247           | 0.237             | 59                            | 105           | 0.209             | 22                            |

**South Zone Underground Resources**

| Cut-Off Grade<br>(opt Au) | Tons<br>(000) | Indicated         |                               | Tons<br>(000) | Inferred          |                               |
|---------------------------|---------------|-------------------|-------------------------------|---------------|-------------------|-------------------------------|
|                           |               | Grade<br>(opt Au) | Contained Gold<br>(000 oz Au) |               | Grade<br>(opt Au) | Contained Gold<br>(000 oz Au) |
| Wireframe                 | 5,848         | 0.066             | 388                           | 8,678         | 0.060             | 516                           |
| 0.015                     | 5,246         | 0.073             | 383                           | 8,362         | 0.061             | 514                           |
| 0.030                     | 4,393         | 0.083             | 364                           | 7,157         | 0.068             | 486                           |
| 0.045                     | 3,402         | 0.096             | 327                           | 4,713         | 0.083             | 393                           |
| 0.050                     | 3,129         | 0.100             | 314                           | 4,055         | 0.089             | 362                           |
| 0.075                     | 1,818         | 0.128             | 233                           | 2,082         | 0.177             | 243                           |
| 0.100                     | 1,040         | 0.159             | 166                           | 1,067         | 0.145             | 155                           |
| 0.125                     | 660           | 0.187             | 123                           | 549           | 0.179             | 98                            |
| 0.150                     | 406           | 0.219             | 89                            | 297           | 0.215             | 64                            |

Notes:

1. CIM definitions were followed for Mineral Resources.

2. The Qualified Persons for this Mineral Resource estimate are: Richard Routledge, P.Geo., and Eugene Puritch, P.Eng.
3. Mineral Resources are estimated by conventional 3D block modelling and ID<sup>3</sup> grade interpolation based on wireframing at a 0.015 opt Au cut-off for open pit and 0.075 opt Au cut-off for underground.
4. Gold price for the estimate is US\$1,600/oz Au.
5. A uniform bulk density of 0.0888 tons/ft<sup>3</sup> (2.85 tonnes/m<sup>3</sup>) has been applied for rock volume to tons conversion. Overburden bulk density is 0.0562 tons/ft<sup>3</sup> (1.80 tonnes/m<sup>3</sup>).
6. Open pit Mineral Resources are estimated from surface to the 10,360 ft elevation (650 ft or 198 m depth) and underground resource below the pit to the 7,290 ft elevation, a depth of (3,740 ft (1,140 m)).
7. Classification of Indicated Resources is based on variogram ranges which indicate grade continuity of 100 ft to 150 ft, the drill hole spacing and geologic interpretation.
8. The open pit Mineral Resource was determined within a Whittle™ pit shell with 45 degree slopes utilizing ore and waste mining costs of C\$1.68/ton and \$1.32/ton for overburden.
9. Costs used to determine the resource cut-off grades were processing at \$11.35/ton and G&A \$3.16/ton. Gold process recovery is 90%.

Table 14-24 summarizes the in-pit and underground Mineral Resources for the Buffalo Ankerite South Zone at various cut-off grades for the portion on the Paymaster Property. P&E recommends that the in-pit resources at the 0.015 opt Au cut-off, and the underground resource at 0.075 opt Au cut-off, be used for public disclosure and further economic evaluation.

**TABLE 14-24 BUFFALO ANKERITE SOUTH ZONE PAYMASTER MINERAL RESOURCES**

**Lexam VG Gold Inc. – Buffalo Ankerite Property**

**South Zone Within Pit Resources**

| Cut-Off Grade<br>(opt Au) | Tons<br>(000) | Indicated         |                               | Tons<br>(000) | Inferred          |                               |
|---------------------------|---------------|-------------------|-------------------------------|---------------|-------------------|-------------------------------|
|                           |               | Grade<br>(opt Au) | Contained Gold<br>(000 oz Au) |               | Grade<br>(opt Au) | Contained Gold<br>(000 oz Au) |
| Wireframe                 | 59.3          | 0.070             | 4.17                          | 117           | 0.059             | 6.91                          |
| 0.015                     | 57.8          | 0.072             | 4.15                          | 113           | 0.061             | 6.88                          |
| 0.030                     | 50.9          | 0.079             | 4.00                          | 101           | 0.065             | 6.58                          |
| 0.045                     | 34.4          | 0.098             | 3.37                          | 67.9          | 0.078             | 5.28                          |
| 0.050                     | 32.2          | 0.102             | 3.27                          | 62.8          | 0.080             | 5.05                          |
| 0.075                     | 21.1          | 0.122             | 2.57                          | 37.3          | 0.093             | 3.26                          |
| 0.100                     | 9.7           | 0.159             | 1.55                          | 6.8           | 0.134             | 0.91                          |
| 0.125                     | 6.7           | 0.182             | 1.21                          | 3.3           | 0.162             | 0.54                          |
| 0.150                     | 4.6           | 0.200             | 0.93                          | 2.6           | 0.167             | 0.44                          |

**South Zone Underground Resources**

| Cut-Off Grade<br>(opt Au) | Tons<br>(000) | Indicated         |                               | Tons<br>(000) | Inferred          |                               |
|---------------------------|---------------|-------------------|-------------------------------|---------------|-------------------|-------------------------------|
|                           |               | Grade<br>(opt Au) | Contained Gold<br>(000 oz Au) |               | Grade<br>(opt Au) | Contained Gold<br>(000 oz Au) |
| Wireframe                 | 0.2           | 0.026             | 0.01                          | 22.6          | 0.032             | 0.72                          |

| Cut-Off Grade<br>(opt Au) | Tons<br>(000) | Indicated         |                               | Tons<br>(000) | Inferred          |                               |
|---------------------------|---------------|-------------------|-------------------------------|---------------|-------------------|-------------------------------|
|                           |               | Grade<br>(opt Au) | Contained Gold<br>(000 oz Au) |               | Grade<br>(opt Au) | Contained Gold<br>(000 oz Au) |
| 0.015                     | 0.2           | 0.026             | 0.01                          | 21.0          | 0.033             | 0.70                          |
| 0.030                     | 0.0           | 0.037             | 0.00                          | 12.5          | 0.038             | 0.48                          |
| 0.045                     | -             | -                 | -                             | 2.1           | 0.058             | 0.12                          |
| 0.050                     | -             | -                 | -                             | 1.5           | 0.063             | 0.09                          |
| 0.075                     | -             | -                 | -                             | 0.1           | 0.117             | 0.02                          |
| 0.100                     | -             | -                 | -                             | 0.1           | 0.120             | 0.02                          |
| 0.125                     | -             | -                 | -                             | 0.1           | 0.129             | 0.01                          |
| 0.150                     | -             | -                 | -                             | -             | -                 | -                             |

Notes:

1. CIM definitions were followed for Mineral Resources.
2. The Qualified Persons for this Mineral Resource estimate are: Richard Routledge, P.Geo., and Eugene Puritch, P.Eng.
3. Mineral Resources are estimated by conventional 3D block modelling and ID<sup>3</sup> grade interpolation based on wireframing at a 0.015 opt Au cut-off for open pit and 0.045 opt Au cut-off for underground.
4. Gold price for the estimate is US\$1,600/oz Au.
5. A uniform bulk density of 0.0888 tons/ft<sup>3</sup> (2.85 tonnes/m<sup>3</sup>) has been applied for rock volume to tons conversion. Overburden bulk density is 0.0562 tons/ft<sup>3</sup> (1.80 tonnes/m<sup>3</sup>).
6. Open pit Mineral Resources are estimated from surface to the 10,360 ft elevation (650 ft or 198 m depth) and underground resource below the pit to the 7,290 ft elevation, a depth of (3,740 ft (1,140 m)).
7. Classification of Indicated Resources is based on variogram ranges which indicate grade continuity of 100 ft to 150 ft, the drill hole spacing and geologic interpretation.
8. The open pit Mineral Resource was determined within a Whittle™ pit shell with 45 degree slopes utilizing ore and waste mining costs of C\$1.68/ton and \$1.32/ton for overburden.
9. Costs used to determine the resource cut-off grades were processing at \$11.35/ton and G&A \$3.16/ton. Gold process recovery is 90%.

## BLOCK MODEL VALIDATION

Although mining has been carried out previously at Buffalo Ankerite, no reconciliation studies or data are available for validation of the current resource estimate. As such, estimated tonnages, grades, and contained metal have not been compared to actual production, nor has the sensitivity of the grade estimate to the drill hole density been evaluated.

The block model was validated using a number of industry standard methods including visual and statistical methods and review of the volumetrics of wireframes versus reported resources.

These methods included visual examination of assay, composite and block grades on plans and sections on-screen and review of the reasonableness of estimation parameters such as:

- Number of composites used for estimation
- Number of holes used for estimation
- Distance to the nearest composite



- Number of passes used to estimate grade.

Comparison was also made of mean grades between assays, composites, and ID<sup>3</sup> and Nearest Neighbour (NN) model blocks on a global basis. The mean grades agree between resource assays and composites reasonably well when explicit and implicit missing assays/non-assayed intervals are accounted for at zero grade. The block model global grade is generally lower than the resource assay and composite grades which is expected as part of the volume variance effect and also reflects spatial distribution of holes in low grade material. The nearest neighbour block model global average grade is  $\pm 10\%$  of the ID<sup>3</sup> average grade except for the South Zone below the 10,000 ft elevation. P&E notes that swath plots of south zone levels show consistently higher NN grades versus ID<sup>3</sup> from the 9820 ft EL to 9020 ft EL which includes the area of underground drilling, production stopes and declining number of interpolated blocks. The smoothing of ID<sup>3</sup> in an area of mixed higher grades and zero grade composites (due to lack of assaying), likely accounts for the lower ID<sup>3</sup> model grade and variance with the NN model grade. Table 14-25 summarizes the block model validations.

**TABLE 14-25 VALIDATION COMPARISONS**  
**Lexam VG Gold Inc. – Buffalo Ankerite Property**

| Item                                | North Zone                     | North Zone                     | South Zone                     | South Zone                     |
|-------------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
|                                     | Above 10,000 ft EL<br>Au (opt) | Below 10,000 ft EL<br>Au (opt) | Above 10,000 ft EL<br>Au (opt) | Below 10,000 ft EL<br>Au (opt) |
| Assays <sup>1</sup>                 | 0.054/0.044                    | 0.099/0.066                    | 0.068/0.063                    | 0.127/0.074                    |
| Composites                          | 0.045                          | 0.066                          | 0.066                          | 0.075                          |
| ID <sup>3</sup> Blocks <sup>2</sup> | 0.047                          | 0.060                          | 0.062                          | 0.069                          |
| NN Blocks <sup>2</sup>              | 0.052                          | 0.059                          | 0.063                          | 0.079                          |
| Variance <sup>3</sup>               | -10%                           | 2%                             | -2%                            | -13%                           |

Notes:

1. Lower grade from dilution at zero grade for gaps in assaying
2. Domains not adjusted for mined stopes
3. ID<sup>3</sup> versus NN

## **RPA 2013 FULLER PROPERTY MINERAL RESOURCE ESTIMATE**

### **SUMMARY**

RPA prepared an updated Mineral Resource estimate for the Fuller Property with the effective date of May 22, 2013. The previous Mineral Resource estimate was completed by Wardrop Engineering Inc. (Wardrop, now Tetra Tech) in 2007 and reported in a Technical Report on the property prepared for VG Gold Corporation (Wardrop, 2007). Fifty-three additional drill holes have been completed on the property since the Wardrop estimate.

Lexam provided RPA with the current drill hole database as well as density measurements. Lithology and mineralization wireframes interpreted by Wardrop in the previous estimate, as well as composite samples used in the Wardrop estimation, were also provided to RPA. The current estimate includes data from both historical and recent drilling and underground sampling. Assay results for all drilling had been received at the time of the estimate.

The updated Mineral Resource estimate is based on 3D block modelling utilizing Datamine Studio 3 and Gemcom GEMS 6.5 software. The Mineral Resources are unconstrained by wireframes: the block model was rather constrained by dynamic search angles and a constrained ellipse in the across strike direction. Dynamic angles used to dictate the orientation of the axes of the search ellipse were created by means of structural wireframe surfaces and strike and dip polylines representing the strike and dip of the main mineralized structural fabric. The block model and drill holes were domained coincidentally with grade interpolation by means of a probabilistic constraining technique to aid the validation of resulting estimates.

The Fuller open pit and underground Mineral Resource estimate is summarized in Table 14-26. The open pit resource is constrained within a preliminary pit shell. Resources located outside the pit shell are reported as underground resources. The Qualified Person for the Fuller Mineral Resource estimate is Katharine Masun, P.Geo., Senior Geologist with RPA. The effective date of the estimate is May 22, 2013.

Note that all measurements stated herein are imperial measurements, i.e., tonnage in short tons, metal content in ounces per short tons, coordinates in feet, density in short tons per cubic foot.

**TABLE 14-26 MINERAL RESOURCE ESTIMATE – MAY 22, 2013**  
**Lexam VG Gold Inc. - Fuller Property**

| <b>Classification</b>  | <b>Cut-off Grade<br/>(opt Au)</b> | <b>Tonnage<br/>(000 tons)</b> | <b>Grade<br/>(opt Au)</b> | <b>Contained<br/>Metal<br/>(000 oz Au)</b> |
|------------------------|-----------------------------------|-------------------------------|---------------------------|--|
| Open Pit               |                                   |                               |                           |  |
| Indicated              | ≥0.015                            | 5,878                         | 0.049                     | 290  |
| Inferred               | ≥0.015                            | 2,981                         | 0.038                     | 112  |
| Underground            |                                   |                               |                           |  |
| Indicated              | ≥0.075                            | 361                           | 0.168                     | 61   |
| Inferred               | ≥0.075                            | 930                           | 0.145                     | 135  |
| <b>Total Indicated</b> |                                   | <b>6,239</b>                  | <b>0.056</b>              | <b>351</b>                                 |
| <b>Total Inferred</b>  |                                   | <b>3,911</b>                  | <b>0.063</b>              | <b>247</b>                                 |

Notes:

1. CIM definitions were followed for Mineral Resources.
2. Mineral Resources are estimated at a cut-off grade of 0.015 opt Au for open pit and 0.075 opt Au for underground.
3. Mineral Resources are estimated using a gold price of US\$1,600 per ounce, and a US\$/C\$ exchange rate 1:1.
4. Numbers may not add due to rounding.

## MINERAL RESOURCE DATABASE

Lexam provided RPA with an up-to-date Gemcom project for the Fuller Property in November 2012. Data for drill holes completed on the property subsequent to this was received as Excel spreadsheets and imported by RPA into the Gemcom project. Lithological modelling and volumetrics were completed in Gemcom GEMS 6.5 and the block modelling and grade estimation, in Datamine Studio 3.

The drill hole database contains underground and surface holes completed by various operators throughout the history of exploration and limited gold production on the Fuller Property (see Section 6). Holes were drilled in a variety of orientations depending on the local orientation of the foliation. Drill holes typically range from less than 100 ft to more than 2,000 ft in length, the longer holes belonging to more recent drilling campaigns. The shorter holes generally were drilled from underground.

Drilling on the Fuller Property covers an approximate area of 2,400 ft (E-W) by 1,600 ft (N-S), with an average drill hole spacing of less than 50 ft within the hinge of the syncline to more

than 150 ft along the eastern and western flanks. Further detail on drilling can be found in Section 10 Drilling.

The current Fuller Property database comprises 657 drill holes, which includes 280 surface and 377 underground drill holes, totalling approximately 378,000 ft of drilling and 144,284 assay ft (35,672 samples). Of these, 558 drill holes (206 surface and 352 underground) for approximately 291,024 ft of drilling and 290,803 assayed ft (33,393 samples) were used in Mineral Resource estimation. From the original database supplied by Lexam, RPA discarded 18 records related to underground drift back samples and sludge test hole samples, ranging in length from four feet to 41 ft (approximately 292 ft), which resulted in the removal of 19 samples with an average grade of 0.182 opt from the database used for Mineral Resource estimation.

## **DYNAMIC ANISOTROPY AND PROBABILISTIC DOMAINS**

The Mineral Resource estimation for the Fuller Property utilized dynamic anisotropy to constrain the interpolation. The ellipse minor axis was restricted to marginally less than one block width during the first search pass so as not to over smooth block estimates by the inclusion of grades from neighbouring samples in the across strike direction (minor axis). Dynamic anisotropy relies on the interpretation by the resource modeller to derive angles that will subsequently orient the search ellipse on a per block basis. The dynamic anisotropy models are often visually more appealing and realistic than techniques such as “unwrinkling” or “unfolding” as they avoid artifacts of back-transformation. The dynamic search and estimation strategies are detailed later in this section.

Since the constraints used for modelling are purely directional and are not hard-coded in the block model, RPA created a probability model based off of an indicator at a cut-off grade near the pit discard cut-off grade. A probability of being above the 0.015 opt open pit cut-off grade of 0.2 was chosen as a domain boundary. Blocks with probabilities greater than 0.2 were flagged as Zone 1, while blocks with probabilities less than 0.2 were flagged as Zone 0. The raw assays and composites were then back-flagged by the interpolated probabilities. The technique allowed RPA to validate the block model within spatial, geological, and statistically homogeneous domains as opposed to a globally unconstrained validation exercise.

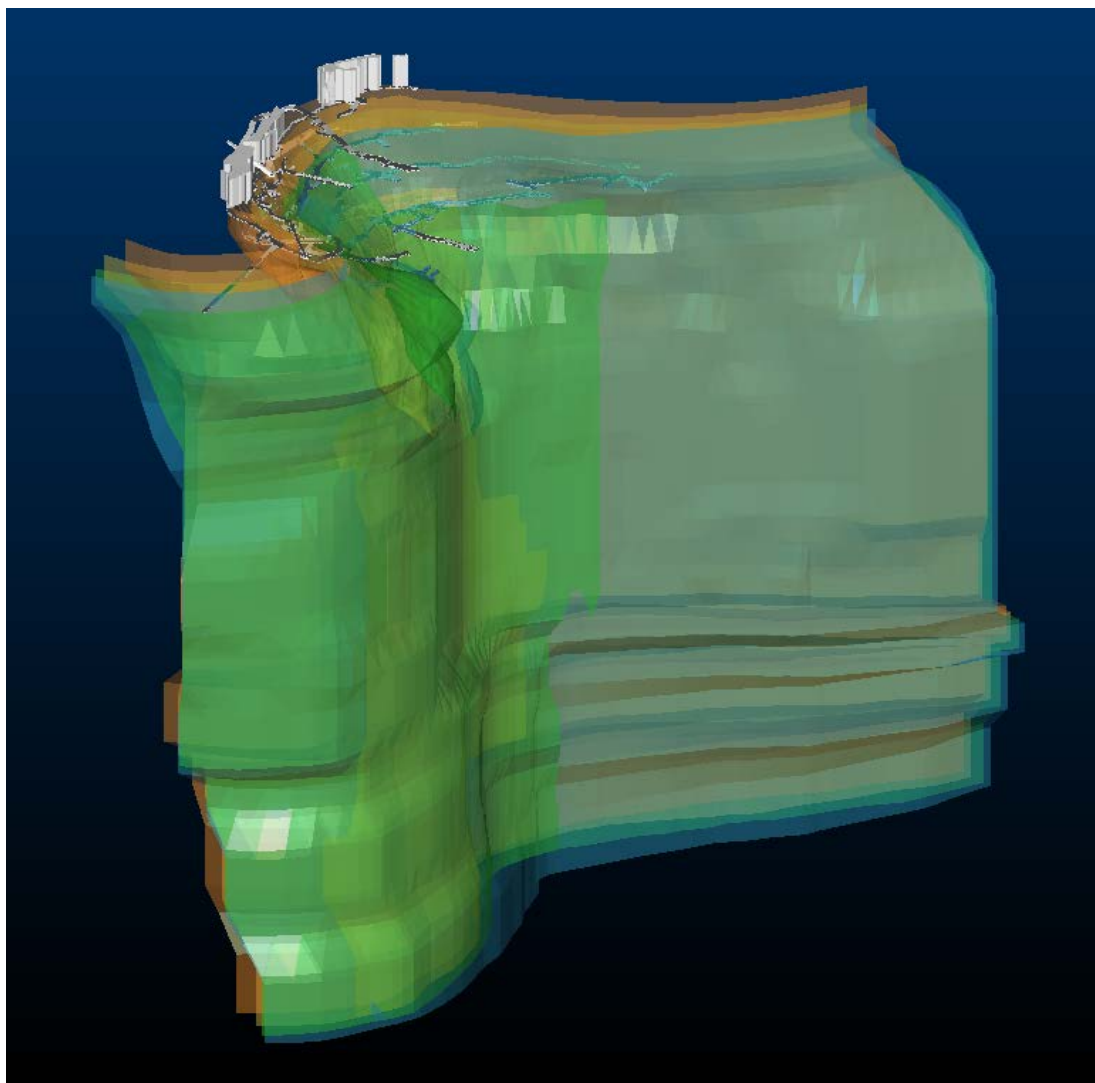
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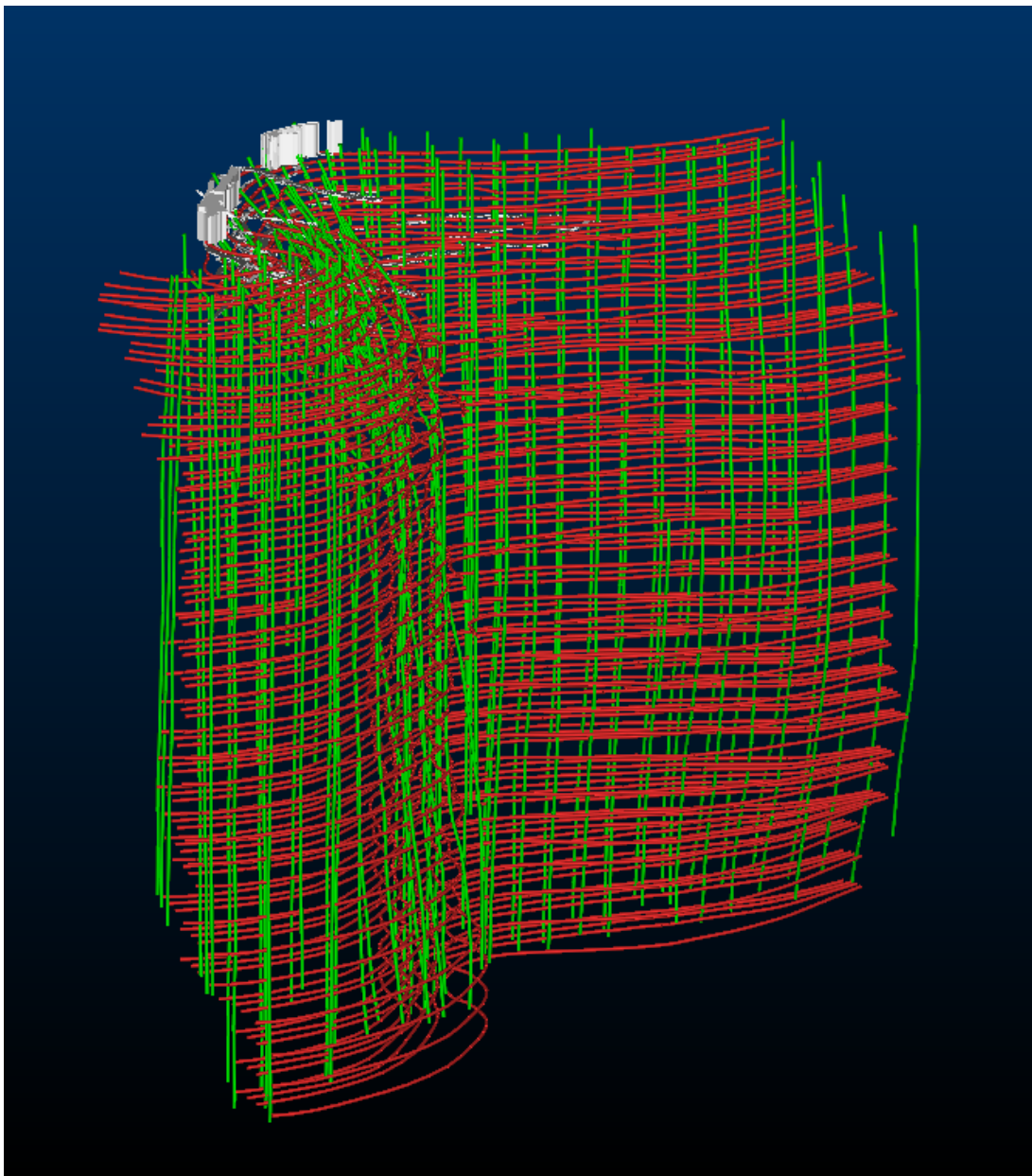
## **GEOLOGICAL AND STRUCTURAL MODELS**

RPA used dynamic anisotropy to mimic the tightly folded stratigraphy on the Fuller resource. RPA created wireframe surfaces (structural or trend surfaces) from polylines on plan view, using drill hole assays, guided by the structural interpretation completed by Wardrop in 2007. In addition, RPA adjusted the interpretation to honour the digitized underground drifts and stopes. The dip and dip direction angles calculated for each wireframe triangle were interpolated into the block model using nearest neighbour and a large spherical ellipse. For a first pass, gold grades were interpolated into the block model based on these angles and the same search strategy was used for grade interpolation for the final model. The grade model created was then used to refine the dynamic angles by means of polylines on plan views and vertical sections perpendicular to the apparent local strike of the deposit.

The structural wireframes and polylines used to calculate the dynamic angles are shown in Figures 14-23 and 14-24.

**FIGURE 14-23 STRUCTURAL WIREFRAME SURFACES FOR DYNAMIC ANGLES**



**FIGURE 14-24 STRUCTURAL POLYLINES FOR DYNAMIC ANGLES****ASSAY STATISTICS**

The probabilistic domaining technique was used to flag assays falling inside (Zone 1) and outside (Zone 0) of predominantly mineralized areas. Length weighted univariate statistical analysis was performed on the uncut resource assay values and summarized in Table 14-27.



**TABLE 14-27 DESCRIPTIVE STATISTICS OF UNCUT GOLD RESOURCE ASSAYS**  
**Lexam VG Gold Inc. – Fuller Property**

| Item                     | Length (ft) | Au (opt) |
|--------------------------|-------------|----------|
| <b>Zone 0</b>            |             |          |
| No. of Cases             | 23,563      | 23,563   |
| Minimum                  | 0.030       | 0.000    |
| Maximum                  | 645.570     | 7.130    |
| Mean                     | 9.444       | 0.008    |
| Median                   | 5.000       | 0.001    |
| Standard Deviation       | 22.017      | 0.088    |
| Coefficient of Variation | 2.331       | 11.065   |
| <b>Zone 1</b>            |             |          |
| No. of Cases             | 8,126       | 8,126    |
| Minimum                  | 96.450      | 0.000    |
| Maximum                  | 3.964       | 21.650   |
| Mean                     | 3.500       | 0.069    |
| Median                   | 4.121       | 0.010    |
| Standard Deviation       | 1.040       | 0.444    |
| Coefficient of Variation | 0.050       | 6.397    |
| <b>Other*</b>            |             |          |
| No. of Cases             | 1,704       | 1,704    |
| Minimum                  | 0.100       | 0.000    |
| Maximum                  | 227.330     | 4.160    |
| Mean                     | 21.168      | 0.008    |
| Median                   | 5.000       | 0.001    |
| Standard Deviation       | 39.513      | 0.105    |
| Coefficient of Variation | 1.866       | 12.835   |

\*assays too far away from blocks and not flagged

## CUTTING OF HIGH ASSAYS

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

The distribution of high grade outliers in the Fuller Mineral Resource assay population warranted the application of high grade cutting. Decile analysis, cumulative density function, log histogram, and inspection of the spatial distribution of the 90<sup>th</sup> to the 95<sup>th</sup> and the 95<sup>th</sup> to the 100<sup>th</sup> cumulative probabilities of the resource assays, including inspection of the outliers

within the entire sample distribution as well as within the Zone 1 probability domain, indicated that a capping value of 1.0 opt was appropriate. Resource assays were cut to 1.0 opt prior to compositing, which had the effect of reducing the coefficient of variation and mean average assay grade.

Table 14-28 summarizes statistics on the resource assay data after cutting to 1.0 opt.

**TABLE 14-28 SUMMARY STATISTICS OF CUT GOLD RESOURCE ASSAYS**  
**Lexam VG Gold Inc. – Fuller Property**

| Domain        | Number of Cut Assays<br>to 1.0 opt | % Metal Cut |
|---------------|------------------------------------|-------------|
| <b>Zone 0</b> | 9                                  | 7%          |
| <b>Zone 1</b> | 58                                 | 18%         |
| <b>Total</b>  | <b>67</b>                          | <b>15%</b>  |

|                          |       |
|--------------------------|-------|
| <b>Zone 1</b>            |       |
| No. of Cases             | 8,126 |
| Minimum                  | 0.000 |
| Maximum                  | 1.000 |
| Mean                     | 0.054 |
| Median                   | 0.010 |
| Standard Deviation       | 0.128 |
| Coefficient of Variation | 2.358 |

|                          |        |
|--------------------------|--------|
| <b>Zone 0</b>            |        |
| No. of Cases             | 23,563 |
| Minimum                  | 0.000  |
| Maximum                  | 1.000  |
| Mean                     | 0.007  |
| Median                   | 0.001  |
| Standard Deviation       | 0.036  |
| Coefficient of Variation | 5.067  |

## COMPOSITING

Raw assays were composited over the full length of the drill holes. Composite lengths were chosen based on the selectivity at the proposed scale of mining. For the open pit portion of the block model, samples were composited to 12 ft lengths, while for the underground block model, samples were composited to six feet. RPA treated unsampled core intervals as having a zero gold grade.

Table 14-29 summarizes statistics on the 12 ft composite data and Table 14-30 summarizes statistics on the six foot composite data.

**TABLE 14-29 OPEN PIT 12 FT COMPOSITE STATISTICS**  
**Lexam VG Gold Inc. – Fuller Property**

| Item                     | Au (opt) |
|--------------------------|----------|
| <b>Zone 0</b>            |          |
| No. of Cases             | 18,340   |
| Minimum                  | 0.0      |
| Maximum                  | 0.5134   |
| Mean                     | 0.0024   |
| Standard Deviation       | 0.0129   |
| Coefficient of Variation | 5.37     |
| <b>Zone 1</b>            |          |
| No. of Cases             | 2,863    |
| Minimum                  | 0.0      |
| Maximum                  | 0.745    |
| Mean                     | 0.037    |
| Standard Deviation       | 0.061    |
| Coefficient of Variation | 1.63     |

**TABLE 14-30 UNDERGROUND 6 FT COMPOSITE STATISTICS**  
**Lexam VG Gold Inc. – Fuller Property**

| Item                     | Au (opt) |
|--------------------------|----------|
| <b>Zone 0</b>            |          |
| No. of Cases             | 36,722   |
| Minimum                  | 0        |
| Maximum                  | 0.846    |
| Mean                     | 0.002    |
| Standard Deviation       | 0.015    |
| Coefficient of Variation | 6.24     |
| <b>Zone 1</b>            |          |
| No. of Cases             | 5,691    |
| Minimum                  | 0.0      |
| Maximum                  | 0.835    |
| Mean                     | 0.037    |
| Standard Deviation       | 0.077    |
| Coefficient of Variation | 2.05     |

## VARIOGRAPHY

RPA used six foot composites capped at 1.0 opt for variography. Downhole variograms indicated a very high nugget ( $C_0=0.53$ ) and a range of approximately 40 ft. RPA used the

nugget from the downhole variogram and attempted to model the west and east limbs of the Fuller syncline and the hinge separately. The direction of the longest range was generally in the order of 100 ft, but the resulting models were unsatisfactory as they conflicted with geology and the orientations of the mined-out stopes. When determining search ellipse neighbourhoods, RPA chose to use visual inspection of grade continuity on plans and section and the size, shape, and orientation of the mined-out stopes.

## BLOCK MODEL AND GRADE ESTIMATION PROCEDURES

### *DIMENSIONS AND CODING*

Two block models were created to cover the area of interest within the Fuller deposit. A block size of 12 ft x 12 ft x 12 ft was used to estimate Mineral Resources within the open pit and a block size of 6 ft x 6 ft x 6 ft was chosen for the block model used to estimate Mineral Resources outside the open pit, i.e., for the underground portion of the Fuller deposit. These two block sizes reflect the proposed scale of mining for open pit and underground. The two block model extents are summarized in Table 14-31 and descriptions of the block model attributes are given in Table 14-32.

**TABLE 14-31 OPEN PIT AND UNDERGROUND BLOCK MODEL EXTENTS**  
**Lexam VG Gold Inc. – Fuller Property**

| Attribute        | Open Pit     | Underground |
|------------------|--------------|-------------|
| Block Model Name | FULLERDA     | FULLER_RPA  |
| Block Size (ft)  | 12 x 12 x 12 | 6 x 6 x 6   |
| X Origin*        | 1,541        | 1,901       |
| Y Origin*        | 8,677        | 8,797       |
| Z Origin*        | 11,149       | 11,149      |
| Number In X      | 287          | 503         |
| Number In Y      | 222          | 396         |
| Number In Z      | 250          | 499         |
| Number Of Blocks | 15,928,500   | 99,394,812  |

\*origin location given in the Fuller local grid coordinate system

**TABLE 14-32 OPEN PIT AND UNDERGROUND BLOCK MODEL ATTRIBUTES**  
**Lexam VG Gold Inc. – Fuller Property**

**FULLERDA (Open Pit)**

| <b>Attribute Name</b> | <b>Description</b>   |
|-----------------------|--|
| Rock Type OP          | Coded 100 for all blocks inside pit shell with Au grade >0 (used in volumetrics) |
| Rock Type             | Rock codes from lithology model  |
| Density               | Bulk density coded from lithology model  |
| Percent               | Percent block within underground openings  |
| AU_C                  | Capped estimated gold values   |
| AU_UC                 | Uncapped estimated gold values   |
| AU_NN                 | Nearest neighbour estimated gold values  |
| Class_Ind             | Classification (1=Indicated; 2=Inferred; 0=no class)                             |
| IND                   | Interpolated indicator   |
| ZONE                  | Probabilistic domain   |
| SVOL                  | Estimation pass number   |

**FULLER\_RPA (Underground)**

| <b>Attribute Name</b> | <b>Description</b>   |
|-----------------------|--|
| Rock Type Minzone     | Coded 100 for all blocks outside of pit shell with Au grade >0 (used in volumetrics) |
| Rock Type             | Rock codes from lithology model  |
| Density               | Bulk density coded from lithology model  |
| Percent               | Percent block within underground openings  |
| AU_C                  | Underground capped estimated gold values for 6 foot composites                       |
| Class_Ind             | Classification (1=Indicated; 2=Inferred; 0=no class)                                 |
| UG                    | Coded 1 for all blocks outside of pit shell  |
| OP                    | Coded 1 for all blocks within pit shell  |
| Zone                  | Probabilistic domain   |
| SVOL                  | Estimation pass number   |

**GRADE INTERPOLATION**

The estimation of gold grades was carried out using inverse distance to the 5<sup>th</sup> power (ID<sup>5</sup>) while the probabilistic indicator was estimated using inverse distance squared. The dynamic angles facilitated grade estimation that honours orientations of the geology while a limited across-strike or minor axis reduced the potential for over-smoothing of grades laterally. The primary search ranges for the major and semi-major axes was determined from 100 ft average spacing of drill sections. A nearest neighbour (NN) estimate was run in parallel to the ID<sup>5</sup> estimate for validation purposes.

The search and estimation strategy for the three pass interpolation is given in Table 14-33.

**TABLE 14-33 INTERPOLATION PARAMETERS**  
**Lexam VG Gold Inc. – Fuller Property**

| <b>Estimation Pass 1:</b>      | <b>Open Pit</b> | <b>Underground</b> |
|--------------------------------|-----------------|--------------------|
| <b>Samples</b>                 |                 |                    |
| Min samples used               | 2               | 2                  |
| Max samples used               | 10              | 10                 |
| Max samples per hole           | 1               | 1                  |
| <b>Distances</b>               |                 |                    |
| Range Major                    | 100             | 100                |
| Range Semi-Major               | 100             | 100                |
| Range Minor                    | 5               | 2.5                |
| <b>Ellipsoid Orientation</b>   |                 |                    |
| Principal Azimuth (degrees)    | <i>Dynamic</i>  | <i>Dynamic</i>     |
| Principal Dip (degrees)        | <i>Dynamic</i>  | <i>Dynamic</i>     |
| Intermediate Azimuth (degrees) | 0               | 0                  |
| <b>Estimation Pass 2:</b>      |                 |                    |
| <b>Samples</b>                 |                 |                    |
| Min samples used               | 2               | 2                  |
| Max samples used               | 10              | 10                 |
| Max samples per hole           | 1               | 1                  |
| <b>Distances</b>               |                 |                    |
| Range Major                    | 200             | 200                |
| Range Semi-Major               | 200             | 200                |
| Range Minor                    | 10              | 5                  |
| <b>Ellipsoid Orientation</b>   |                 |                    |
| Principal Azimuth (degrees)    | <i>Dynamic</i>  | <i>Dynamic</i>     |
| Principal Dip (degrees)        | <i>Dynamic</i>  | <i>Dynamic</i>     |
| Intermediate Azimuth (degrees) | 0               | 0                  |
| <b>Estimation Pass 3:</b>      |                 |                    |
| <b>Samples</b>                 |                 |                    |
| Min samples used               | 2               | 2                  |
| Max samples used               | 10              | 10                 |
| Max samples per hole           | 1               | 1                  |
| <b>Distances</b>               |                 |                    |
| Range Major                    | 300             | 300                |
| Range Semi-Major               | 300             | 300                |
| Range Minor                    | 15              | 7.5                |

### Ellipsoid Orientation

|                                |                |                |
|--------------------------------|----------------|----------------|
| Principal Azimuth (degrees)    | <i>Dynamic</i> | <i>Dynamic</i> |
| Principal Dip (degrees)        | <i>Dynamic</i> | <i>Dynamic</i> |
| Intermediate Azimuth (degrees) | 0              | 0              |

### BLOCK MODEL VALIDATION

RPA validated block estimates by a global comparison between NN and ID<sup>5</sup> grades, visual inspection of vertical and plan sections, and swath plots of ID<sup>5</sup> versus NN estimates.

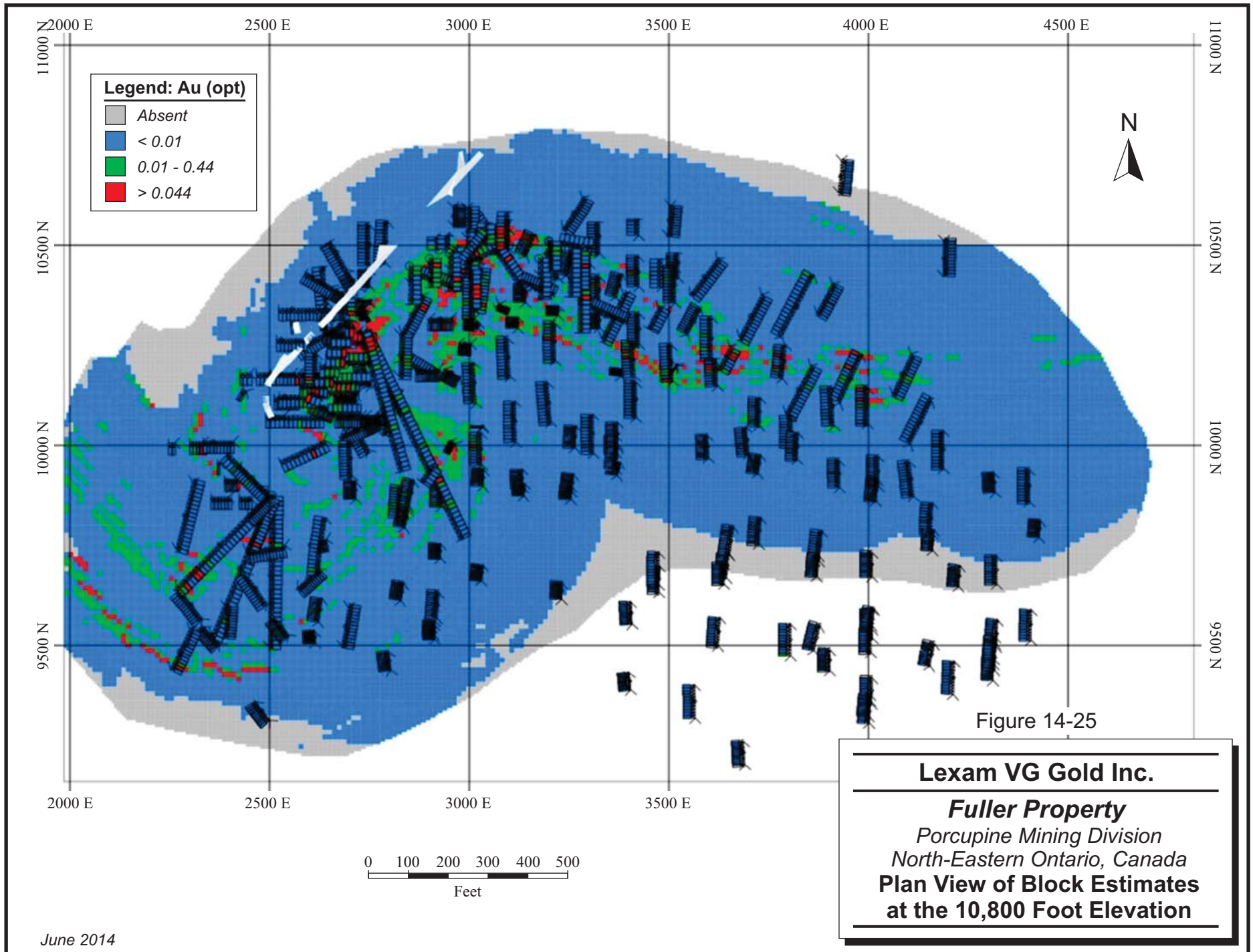
The global comparison of NN and ID<sup>5</sup> grades indicates the effectiveness of the overall block estimates at reproducing the declustered composite statistics (Table 14-34). Screen shots of sections and plan views of composite versus block grades are shown in Figures 14-25 and 14-26.

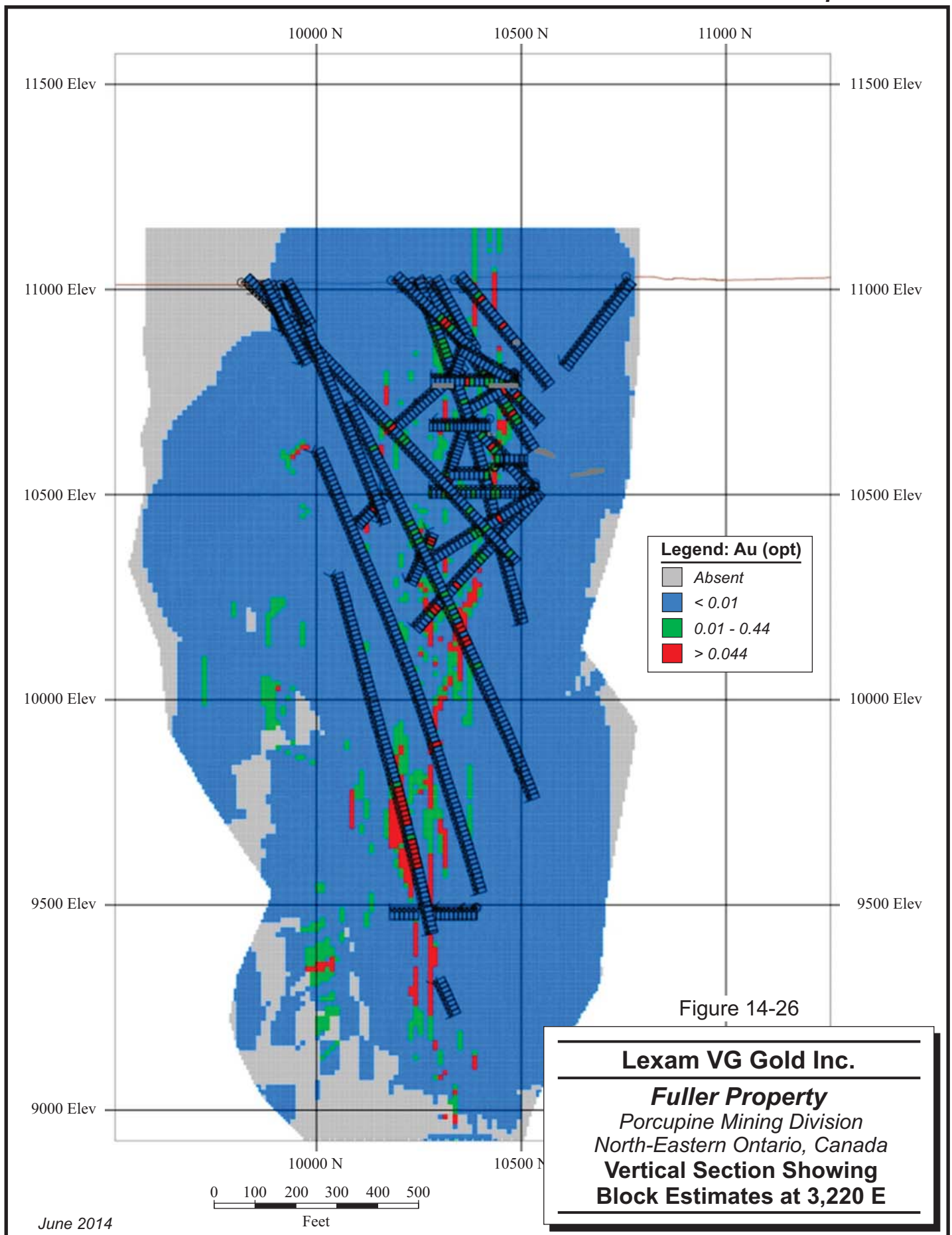
**TABLE 14-34 ID<sup>5</sup> VERSUS NN COMPARISON**  
Lexam VG Gold Inc. – Fuller Property

| Domain          | Method          | Average (opt) | Variance (opt) | Std Dev (opt) |
|-----------------|-----------------|---------------|----------------|---------------|
| <b>OP Model</b> |                 |               |                |               |
| Zone 0          | NN              | 0.0007        | 0.0000         | 0.0033        |
|                 | ID <sup>5</sup> | 0.0011        | 0.0000         | 0.0033        |
| Zone 1          | NN              | 0.0321        | 0.0029         | 0.0541        |
|                 | ID <sup>5</sup> | 0.0296        | 0.0016         | 0.0397        |
| <b>UG Model</b> |                 |               |                |               |
| Zone 0          | NN              | 0.0010        | 0.0001         | 0.0084        |
|                 | ID <sup>5</sup> | 0.0014        | 0.0000         | 0.0068        |
| Zone 1          | NN              | 0.0282        | 0.0043         | 0.0654        |
|                 | ID <sup>5</sup> | 0.0263        | 0.0024         | 0.0491        |



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## BULK DENSITY

To convert volumes to tons, a simplified lithological model was created in GEMS with the following rock types: Porphyry (901/902), V3 (Mafic – 903), V4 (Ultramafic – 904), and Diabase (905). A bulk density factor was assigned for each lithology by determining the mean value of each rock type from bulk density testing carried out on drill core by Lexam from 2011 and 2012. Each block in the two block models was coded with a lithology rock type by majority rules. Blocks that fell outside of the lithological model were coded as Waste (99) and a default bulk density of 0.0885 ton/ft<sup>3</sup> (the average of V3 and V4) was applied. Resource bulk density statistics are summarized in Table 14-35.

**TABLE 14-35 RESOURCE BULK DENSITY MEASUREMENTS**  
Lexam VG Gold Inc. – Fuller Property

| Item                     | Porphyry       |
|--------------------------|----------------|
| No. of Cases             | 45             |
| Minimum                  | 0.082          |
| Maximum                  | 0.090          |
| Mean                     | 0.084          |
| Standard Deviation       | 0.002          |
| Coefficient of Variation | 0.018          |
|                          | <b>V3</b>      |
| No. of Cases             | 89             |
| Minimum                  | 0.083          |
| Maximum                  | 0.104          |
| Mean                     | 0.088          |
| Standard Deviation       | 0.002          |
| Coefficient of Variation | 0.026          |
|                          | <b>V4</b>      |
| No. of Cases             | 40             |
| Minimum                  | 0.084          |
| Maximum                  | 0.091          |
| Mean                     | 0.089          |
| Standard Deviation       | 0.002          |
| Coefficient of Variation | 0.017          |
|                          | <b>Diabase</b> |
| No. of Cases             | 7              |
| Minimum                  | 0.086          |
| Maximum                  | 0.095          |
| Mean                     | 0.091          |
| Standard Deviation       | 0.004          |
| Coefficient of Variation | 0.044          |

RPA recommends that more work be undertaken on determination of bulk density for the mineralized zones and wall rock within the Fuller deposit.

## CLASSIFICATION

The Mineral Resource classification used in this report is consistent with CIM Definition Standards for Mineral Resources and Mineral Reserves (2010) as incorporated by reference in NI 43-101. In the CIM classification, a Mineral Resource is defined as “a concentration or occurrence of natural, solid, inorganic or fossilized organic material in or on the Earth’s crust in such form and quantity and of such grade or quality that it has reasonable prospects for economic extraction”. Mineral Resources are classified into Measured, Indicated, and Inferred categories according to the level of confidence in the geological information available on the mineral deposit.

Classification for the Fuller Mineral Resource estimate was guided by search distance criteria, relative continuity of grade, overall sample density, and confirmation of the geological interpretation by the existing underground drifts and stopes.

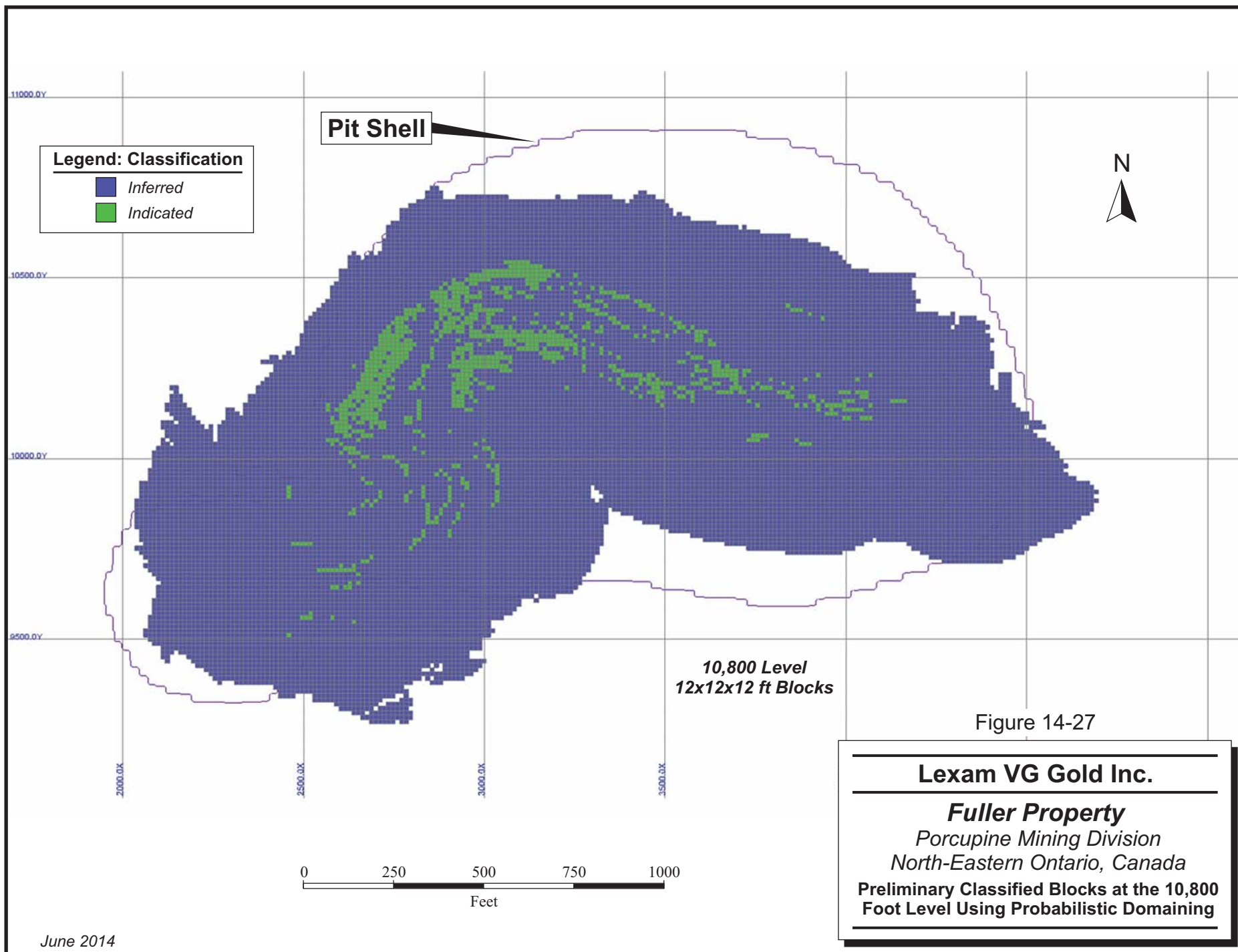
The first pass minimum criteria for Indicated Resources are as follows:

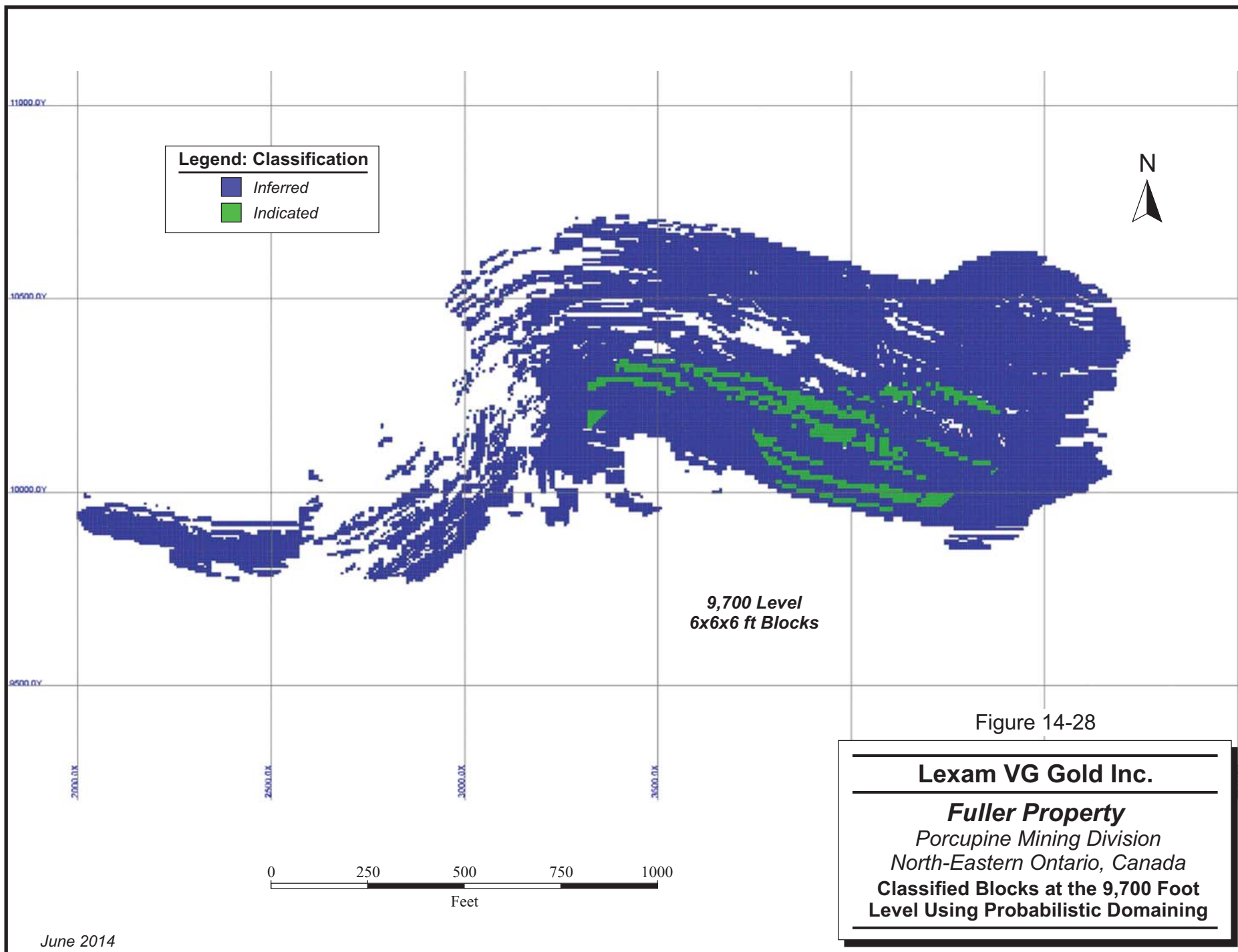
- The block is estimated during the first search pass corresponding to the average sectional drill spacing of 100 ft.
- The block falls within the Zone 1 probability domain suggesting continuity of grade.
- The estimation of grade locally is consistent with the orientation of underground openings.

Using the above criteria, RPA visually inspected the classification of blocks on vertical and plan sections both within the pit for the open pit portion of the Mineral Resource and outside the pit for the underground portion of the Mineral Resource. RPA concluded that the preliminary classification continuity was not acceptable (see Figures 14-27 and 14-28). Using the first pass criteria outlined above as a guide and incorporating both drill hole spacing (average of 100 ft spacing at a minimum) and visual continuity of grade above cut-off, RPA manually wireframed classification solids for Indicated Mineral Resources. This exercise was completed for both the open pit and the underground Mineral Resources. The blocks in each block model that fell within the Indicated classification solids were flagged as Indicated and the remaining classified blocks were flagged as Inferred. Figures 14-29 and

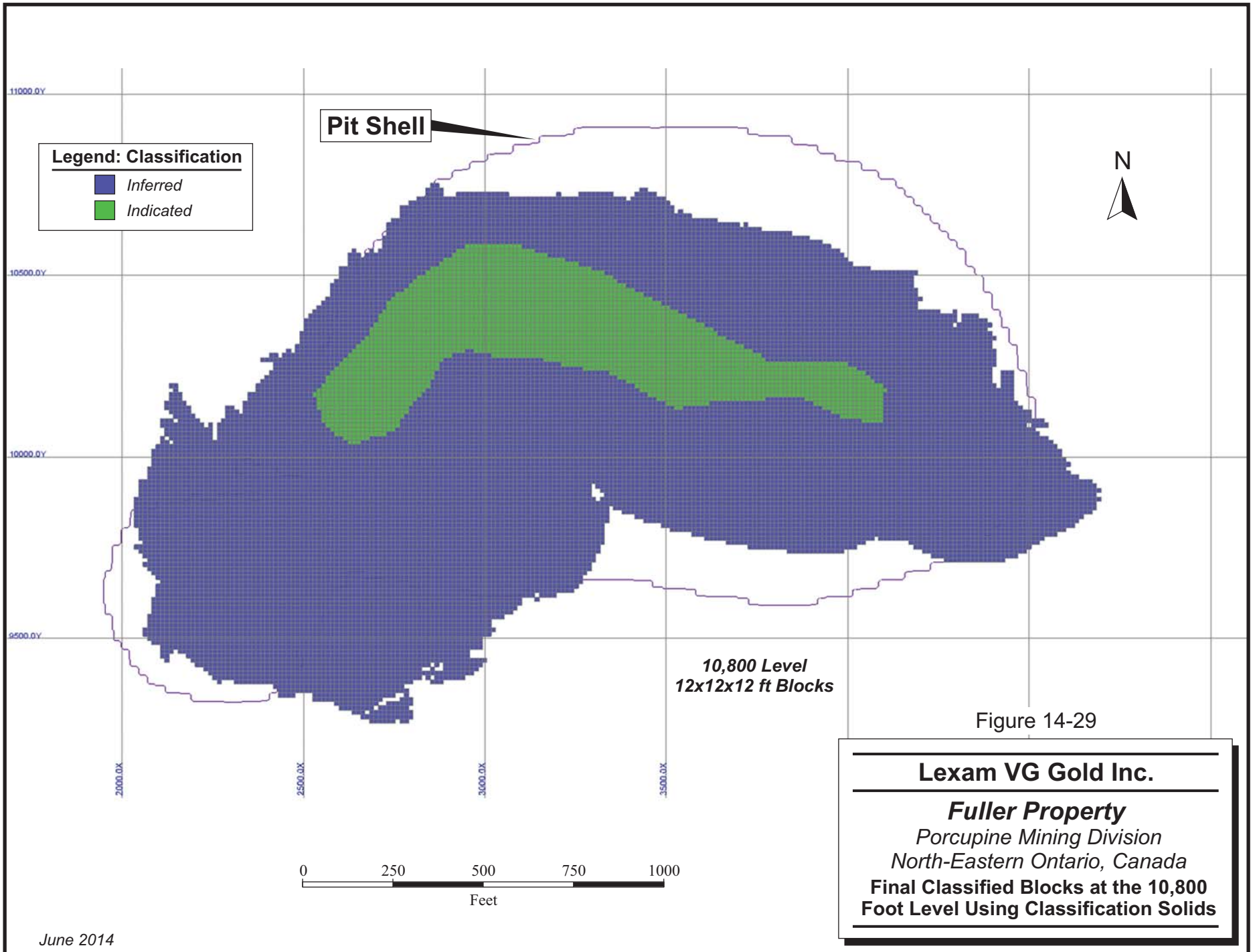
14-30 highlight the final classified blocks in the 12 ft open pit and six foot underground block models using the Indicated classification solids.



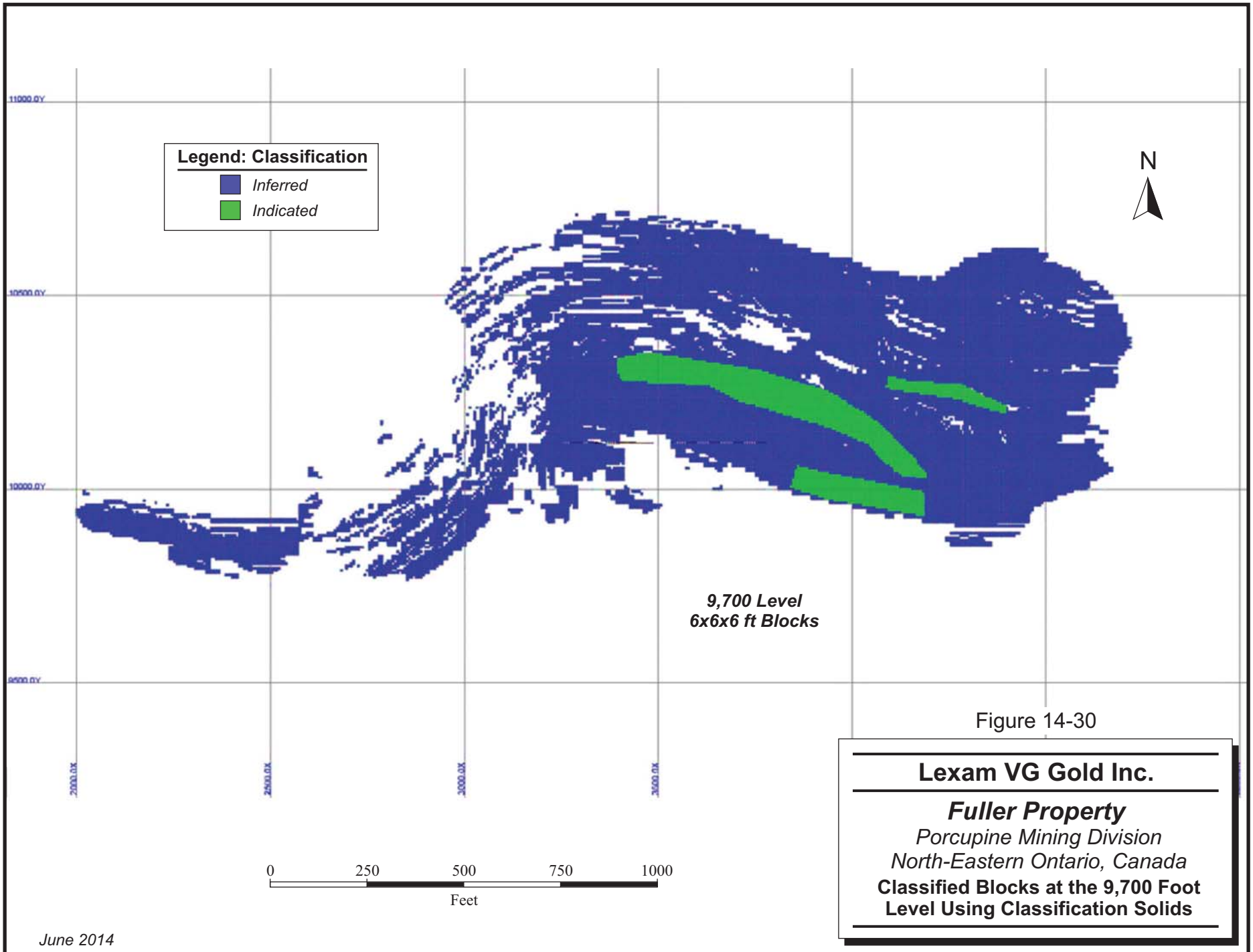








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## REMOVAL OF MINED-OUT AREAS

RPA received solids representing the underground workings and digitized mined-out stopes from plan views and longitudinal sections. RPA subtracted the mined-out portion from the Mineral Resources but was unable to independently validate the extent of underground mining. Using a cut-off grade of 0.015 opt Au, RPA removed 105,000 st and 8,314 oz of gold from the Fuller Mineral Resource.

## OPEN PIT OPTIMIZATION

The block model generated in Gemcom GEMS was transferred to Whittle software for the pit optimization work. The block model was reblocked to a block size of 24 ft x 24 ft x 24 ft to reduce the number of blocks and implicitly the processing time. The parameters used in the optimization process are listed in Table 14-36.

**TABLE 14-36 PIT OPTIMIZATION FACTORS**  
**Lexam VG Gold Inc. - Fuller Property**

| Item                   | Value                                 |
|------------------------|---------------------------------------|
| Pit Slopes             | -50°                                  |
| Mining Cost            | \$1.68/st (converted from \$1.85/t)   |
| Process Cost           | \$16.33/st (converted from \$18.00/t) |
| G&A                    | \$4.54/st (converted from \$5.00/t)   |
| Recovery               | 90%                                   |
| Gold Price             | US\$1,600/oz                          |
| Block Size (reblocked) | 24 x 24 x 24 ft                       |

The revenue factor 1 pit was then transferred to Gemcom GEMS for open pit resource reporting and served as a limit for underground resource reporting.

## CUT-OFF GRADES

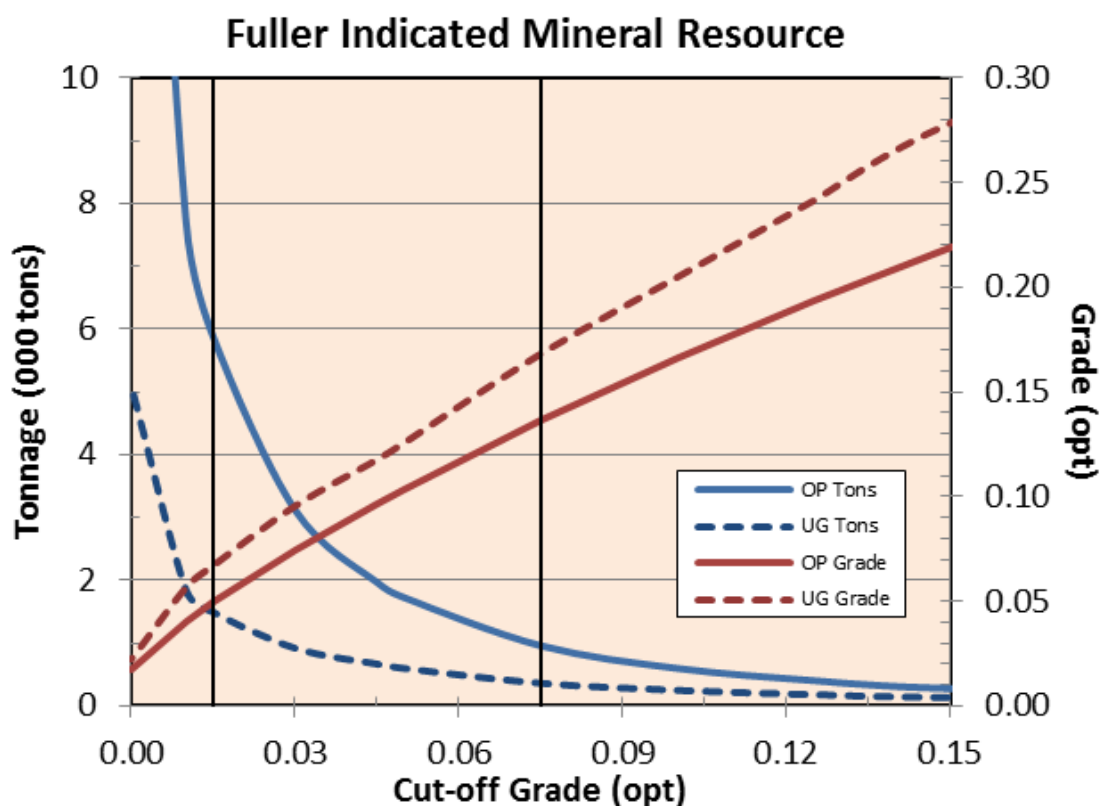
The open pit resources were reported using a 0.015 opt cut-off grade. The underground resources were reported using a 0.075 opt cut-off grade based on the costs in Table 14-36 and US\$1,600/oz gold price and an underground mining cost of approximately \$88/st.

## SENSITIVITY ANALYSIS

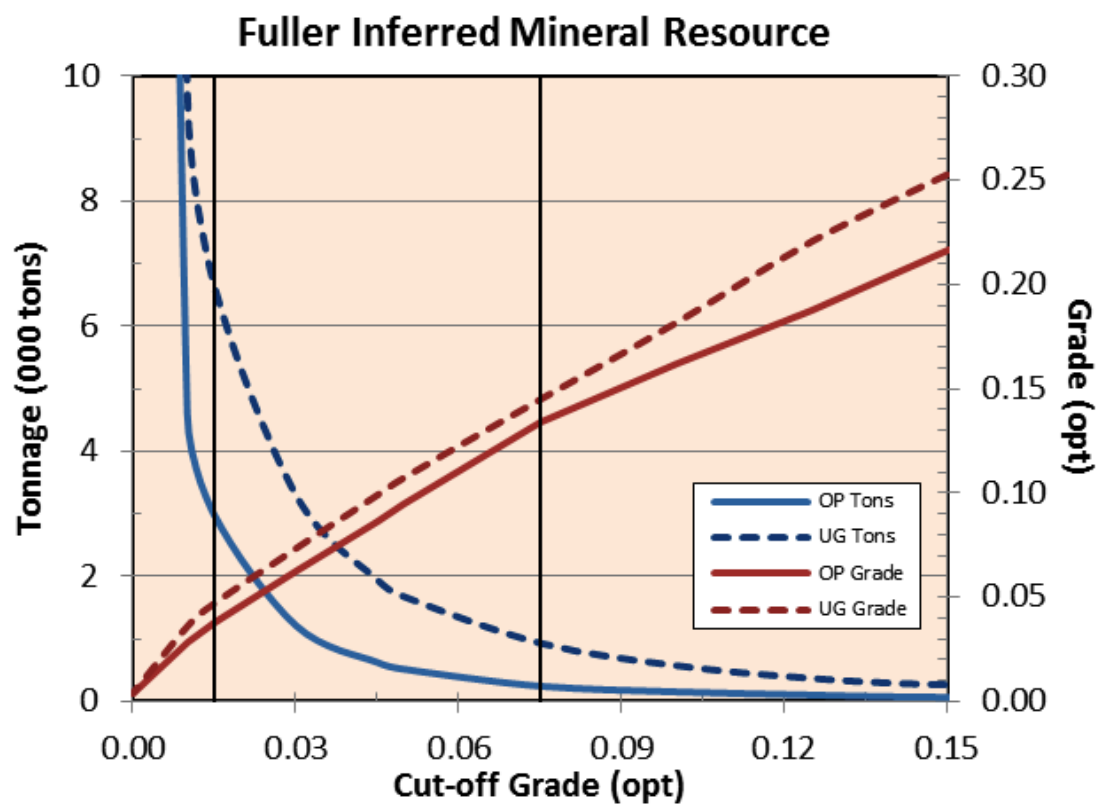
The open pit and underground Mineral Resources are sensitive to the cut-off grade. For the open pit, sensitivity is most pronounced in the 0.015 opt to 0.03 opt Au range, then

moderately sensitive for grades higher than 0.03 opt Au. Underground Mineral Resources are most sensitive in the 0.015 opt Au to 0.06 opt Au range, then moderately sensitive for grades higher than 0.06 opt Au. Table 14-37 presents the tonnage, grade, and ounces at various cut-off values. Figures 14-31 and 14-32 show the grade-tonnage curves for the open pit and underground Indicated Resources and for the open pit and underground Inferred Resources.

**FIGURE 14-31 OPEN PIT AND UNDERGROUND INDICATED RESOURCES – GRADE–TONNAGE CURVES**



**FIGURE 14-32 OPEN PIT AND UNDERGROUND INFERRED RESOURCES –  
GRADE-TONNAGE CURVES**



**TABLE 14-37 GRADE AND TONNAGE AT VARIOUS CUT-OFFS**  
**Lexam VG Gold Inc. - Fuller Property**

| Classification           | Cut-off<br>(opt Au) | Tonnage<br>(st)  | Grade<br>(opt Au) | Gold<br>(oz)   |
|--------------------------|---------------------|------------------|-------------------|----------------|
| Open Pit<br>Indicated    | ≥0.320              | 24,851           | 0.636             | 9,327          |
|                          | ≥0.150              | 276,800          | 0.375             | 60,698         |
|                          | ≥0.125              | 402,752          | 0.219             | 77,925         |
|                          | ≥0.100              | 598,081          | 0.193             | 99,594         |
|                          | ≥0.075              | 957,507          | 0.167             | 130,732        |
|                          | ≥0.050              | 1,723,742        | 0.137             | 177,403        |
|                          | ≥0.045              | 1,966,405        | 0.103             | 188,908        |
|                          | ≥0.030              | 3,117,676        | 0.096             | 231,011        |
|                          | <b>≥0.015</b>       | <b>5,878,200</b> | <b>0.074</b>      | <b>289,920</b> |
| Open Pit<br>Inferred     | ≥0.320              | 4,726            | 0.350             | 1,653          |
|                          | ≥0.150              | 64,979           | 0.216             | 14,068         |
|                          | ≥0.125              | 100,591          | 0.188             | 18,898         |
|                          | ≥0.100              | 152,374          | 0.162             | 24,663         |
|                          | ≥0.075              | 242,723          | 0.134             | 32,491         |
|                          | ≥0.050              | 513,551          | 0.095             | 48,613         |
|                          | ≥0.045              | 623,502          | 0.086             | 53,827         |
|                          | ≥0.030              | 1,212,894        | 0.062             | 75,489         |
|                          | <b>≥0.015</b>       | <b>2,980,525</b> | <b>0.038</b>      | <b>111,953</b> |
| Underground<br>Indicated | ≥0.320              | 35,349           | 0.467             | 16,509         |
|                          | ≥0.150              | 131,983          | 0.279             | 36,758         |
|                          | ≥0.125              | 178,517          | 0.242             | 43,121         |
|                          | ≥0.100              | 248,725          | 0.205             | 50,961         |
|                          | <b>≥0.075</b>       | <b>360,760</b>   | <b>0.168</b>      | <b>60,699</b>  |
|                          | ≥0.050              | 596,976          | 0.126             | 75,089         |
|                          | ≥0.045              | 666,044          | 0.118             | 78,369         |
|                          | ≥0.030              | 918,197          | 0.096             | 87,700         |
|                          | ≥0.015              | 1,492,259        | 0.067             | 100,039        |
| Underground<br>Inferred  | ≥0.320              | 53,500           | 0.459             | 24,562         |
|                          | ≥0.150              | 265,454          | 0.253             | 67,141         |
|                          | ≥0.125              | 366,994          | 0.221             | 81,023         |
|                          | ≥0.100              | 571,895          | 0.182             | 103,896        |
|                          | <b>≥0.075</b>       | <b>930,400</b>   | <b>0.145</b>      | <b>134,826</b> |
|                          | ≥0.050              | 1,672,367        | 0.107             | 179,740        |
|                          | ≥0.045              | 1,945,892        | 0.099             | 192,696        |
|                          | ≥0.030              | 3,302,817        | 0.073             | 242,243        |
|                          | ≥0.015              | 6,642,912        | 0.047             | 312,534        |

## COMPARISON WITH PREVIOUS RESOURCE ESTIMATE

The Mineral Resource estimate for the Fuller Property reported in the August 2007 Technical Report on the Fuller Gold Property by Wardrop is compared with the current estimate in Table 14-38.

**TABLE 14-38 COMPARISON WITH AUGUST 2007 RESOURCE ESTIMATE**  
Lexam VG Gold Inc. - Fuller Property

| Year                   | Classification  | Cut-off Grade (opt Au) | Tonnage (000 st) | Grade (opt Au) | Contained Metal (000 oz Au) |
|------------------------|-----------------|------------------------|------------------|----------------|-----------------------------|
| 2013                   | OP              |                        |                  |                |                             |
|                        | Indicated       | ≥0.015                 | 5,878            | 0.049          | 290                         |
|                        | Inferred        | ≥0.015                 | 2,981            | 0.038          | 112                         |
|                        | UG              |                        |                  |                |                             |
|                        | Indicated       | ≥0.075                 | 361              | 0.168          | 61                          |
|                        | Inferred        | ≥0.075                 | 930              | 0.145          | 135                         |
| <b>Total Indicated</b> |                 |                        | <b>6,239</b>     | <b>0.056</b>   | <b>351</b>                  |
| <b>Total Inferred</b>  |                 |                        | <b>3,911</b>     | <b>0.063</b>   | <b>247</b>                  |
| 2007                   | Total Indicated | ≥0.075                 | 1,475            | 0.160          | 236                         |
|                        | Total Inferred  | ≥0.075                 | 1,813            | 0.165          | 300                         |

The 2007 estimation was done by interpolating grades using Ordinary Kriging (OK) into 14 geological solids in seven zones. Wardrop used composite lengths of up to 10 ft and did not discard any composites, regardless of length. The capping value applied in the 2007 estimate was 1.0 opt Au and the reporting cut-off value was 0.075 opt Au.

Additional drilling was available for the 2013 resource estimate. Mineralized intercepts from 53 new drill holes for both open pit and underground domains were used in the current estimate.

Total Indicated and Inferred Mineral Resources in the current estimate at a cut-off grade of 0.075 opt average 0.145 opt and 0.143 opt, respectively, or 9% and 13% lower than the 2007 estimate. The current Indicated and Inferred Mineral Resources, at a 0.075 opt cut-off grade,



total 191,000 oz and 167,000 oz of gold, or 19% and 44% fewer ounces, respectively, than the 2007 estimate.

The difference represents the cumulative effect of different interpolation methods, different compositing strategies, and the extra drilling.

In order to support mine planning, areas of the Fuller block models constructed by RPA for underground and open pit resources require refinement and RPA recommends adding trend lines and surfaces locally to better align the orientation of the search ellipse.

Infill drilling should be carried out on the periphery of the deposit, where drilling is more widely spaced, to upgrade the Mineral Resource classification in these areas.

## **RPA 2013 PAYMASTER PROPERTY MINERAL RESOURCE ESTIMATE**

### **SUMMARY**

RPA prepared an updated Mineral Resource estimate for the Paymaster Property with the effective date of May 22, 2013. The previous Mineral Resource estimate was completed by Kenneth Guy and Peter Bevan in 2010 and reported in a Technical Report on the property prepared for VG Gold Corporation (Guy and Bevan, 2010). Twenty-four additional drill holes have been completed on the property since the 2010 estimate.

The updated Mineral Resource estimate for the Paymaster Property is summarized in Table 14-39. The estimate was carried out using Gemcom GEMS 6.4 in two stages. Initially, an open pit resource was estimated using a lower gold cut-off grade, and then an underground resource was defined below the pit shell, at a higher gold cut-off grade. The Mineral Resources were classified as Indicated and Inferred, with all of the Indicated Resources located within the open pit. The Qualified Person for the Paymaster Mineral Resource estimate is Tudorel Ciuculescu, M.Sc., P.Geo., Senior Geologist with RPA. The effective date of the Paymaster Mineral Resource estimate is May 22, 2013.

Note that all measurements stated in this section are imperial measurements, i.e., tonnage is in short tons, metal content in ounces per short tons, coordinates in feet, density in short tons per cubic foot.

**TABLE 14-39 MINERAL RESOURCE ESTIMATE – MAY 22, 2013**  
**Lexam VG Gold Inc. - Paymaster Property**

| <b>Classification</b>  | <b>Cut-off Grade<br/>(opt Au)</b> | <b>Tonnage<br/>(000 tons)</b> | <b>Grade<br/>(opt Au)</b> | <b>Contained Metal<br/>(000 oz Au)</b> |
|------------------------|-----------------------------------|-------------------------------|---------------------------|--|
| Open Pit               |                                   |                               |                           |  |
| Indicated              | ≥0.015                            | 5,135                         | 0.047                     | 242                                    |
| Inferred               | ≥0.015                            | 1,542                         | 0.047                     | 72                                     |
| Underground            |                                   |                               |                           |  |
| Indicated              | -                                 | -                             | -                         | -                                      |
| Inferred               | ≥0.075                            | 239                           | 0.179                     | 43                                     |
| <b>Total Indicated</b> |                                   | <b>5,135</b>                  | <b>0.047</b>              | <b>242</b>                             |
| <b>Total Inferred</b>  |                                   | <b>1,781</b>                  | <b>0.065</b>              | <b>115</b>                             |

Notes:

1. CIM definitions were followed for Mineral Resources.
2. Mineral Resources are estimated at a cut-off grade of 0.015 opt Au for open pit and 0.075 opt Au for underground.
3. Mineral Resources are estimated using a gold price of US\$1,600 per ounce, and a US\$/C\$ exchange rate 1:1.
4. A minimum mining width of approximately 20 ft was used for OP and approximately 5 ft for UG.
5. Numbers may not add due to rounding.

A nominal minimum horizontal width of 20 ft was used as a guide for the open pit and five feet for the underground. The largest open pit mineralized wireframe straddles the existing stopes, while the rest of the mineralized wireframes are mostly parallel to the former. The underground wireframes are narrower and some of them represent the higher grade core of the open pit wireframes situated below the pit shell.

## MINERAL RESOURCE DATABASE

The drill hole database for the resource estimate contains the Placer Dome drilling (1995-1996) and the VG Gold/Lexam drilling (2009-2012). The database contains 263 drill holes with a total drilled length of 217,977.56 ft and has a total of 21,439 samples representing 91,734.43 ft. The resource data consists of 13,052.08 ft from 145 drill holes for the open pit

and 826.2 ft from 35 drill holes for the underground. There is some overlap between the underground intercepts and the open pit intercepts.

For the current resource estimate, RPA did not consider the data from historical holes drilled in the 1920s and 1950s on the Paymaster property. Closely spaced pairs of older and recent composites indicated a low similarity between the two different generations of drill holes, as described in Section 12 Data Verification.

## **GEOLOGICAL INTERPRETATION AND 3D SOLIDS**

For the open pit exercise, the focus was on the central part of the property. Mineralized wireframes were built at approximately a 0.010 opt Au cut-off value over a nominal 20 ft horizontal width. The main mineralized solid is oriented along the existing underground stopes, oriented east-west (solid 114). Mineralized solids with various orientations were also modelled. The stope and underground development solid was provided by Lexam.

Quartz feldspar porphyry, mafic, and ultramafic lithological domains were modelled, as well as the overburden.

The underground wireframes were modelled for the mineralized material below the pit shell developed for the open pit estimate. A cut-off value of approximately 0.043 opt Au over nominal five foot horizontal width was used as a guide for wireframing. A few lower grade intercepts were included to preserve continuity. The resulting wireframes were either higher grade cores of the deep pen pit solids or new, thin, higher-grade lenses.

The pit shell reaches 900 ft depth below surface, while the underground wireframes reach a depth of 1,500 ft below surface. Figure 14-33 shows the open pit wireframes, resource drill holes, and property boundary. The pit shell and underground wireframes are shown in Figure 14-34.

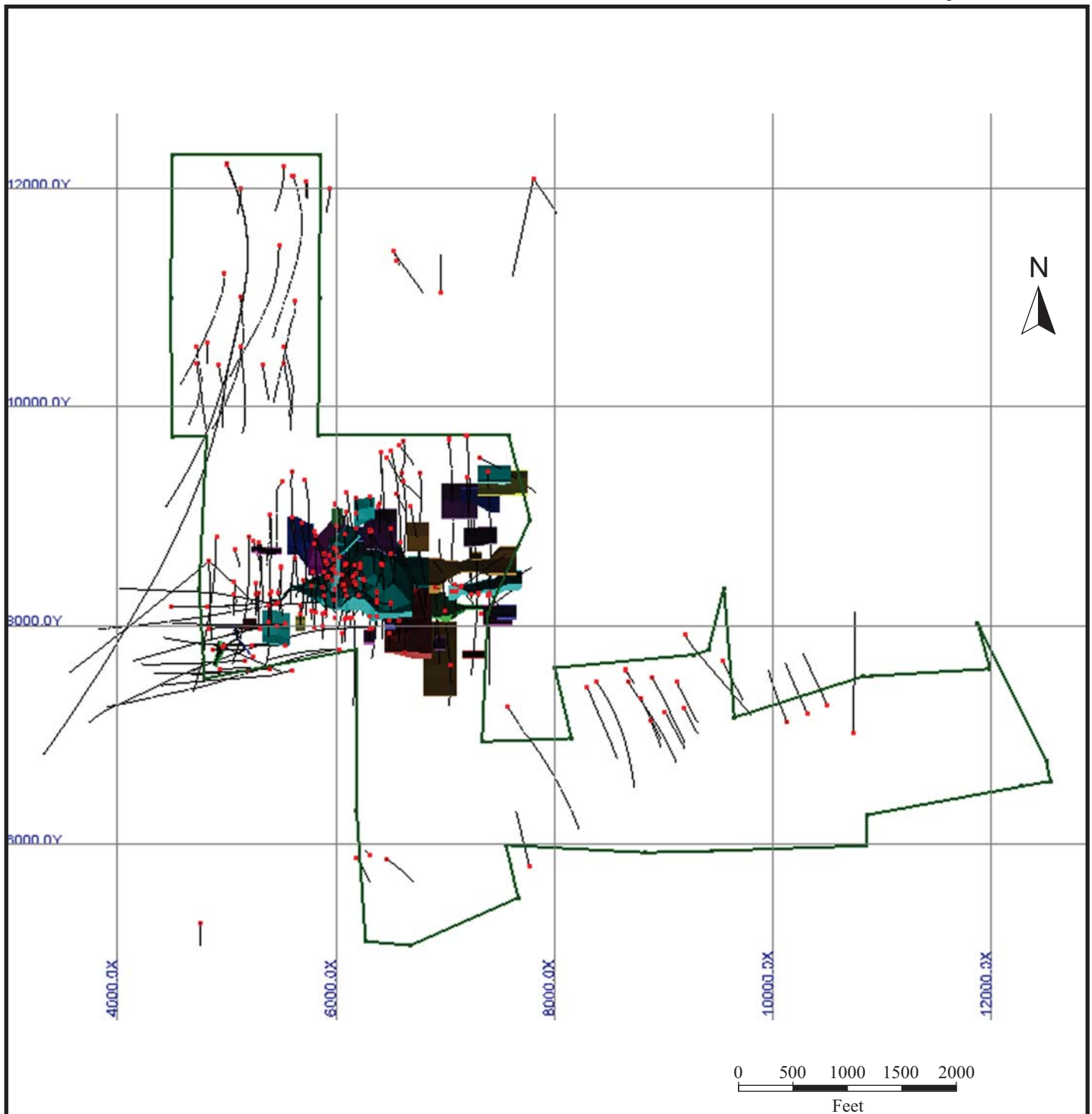


Figure 14-33

**Lexam VG Gold Inc.**  
**Paymaster Property**  
 Porcupine Mining Division  
 North-Eastern Ontario, Canada  
**Open Pit Resource Wireframes,  
 Drill Holes and Property Boundary**

June 2014

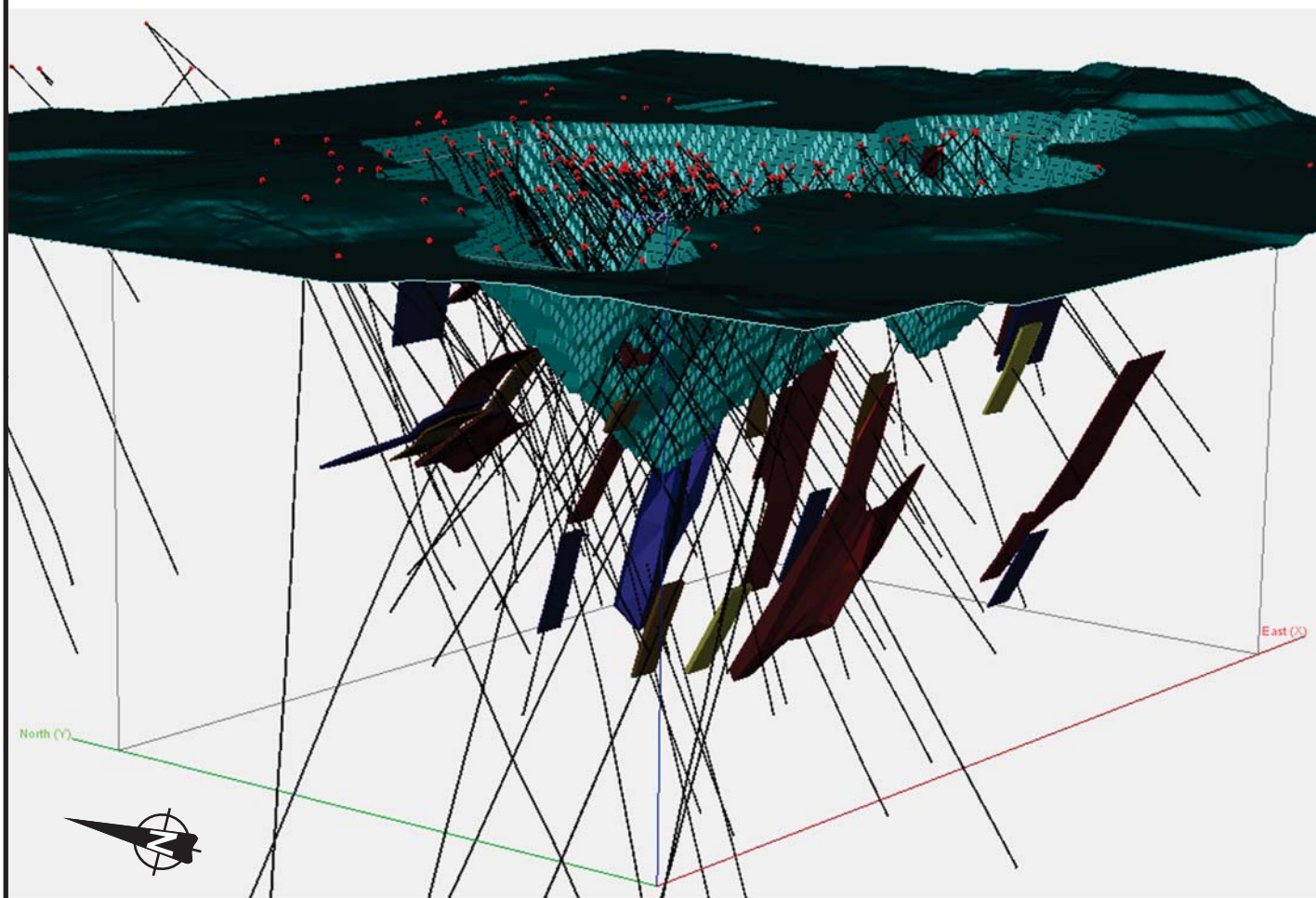


Figure 14-34

**Lexam VG Gold Inc.**  
***Paymaster Property***  
*Porcupine Mining Division*  
*North-Eastern Ontario, Canada*  
**Underground Resource Wireframes**  
**Drill Holes and the Pit Shell**

## BASIC STATISTICS

### OPEN PIT RESOURCE ASSAYS

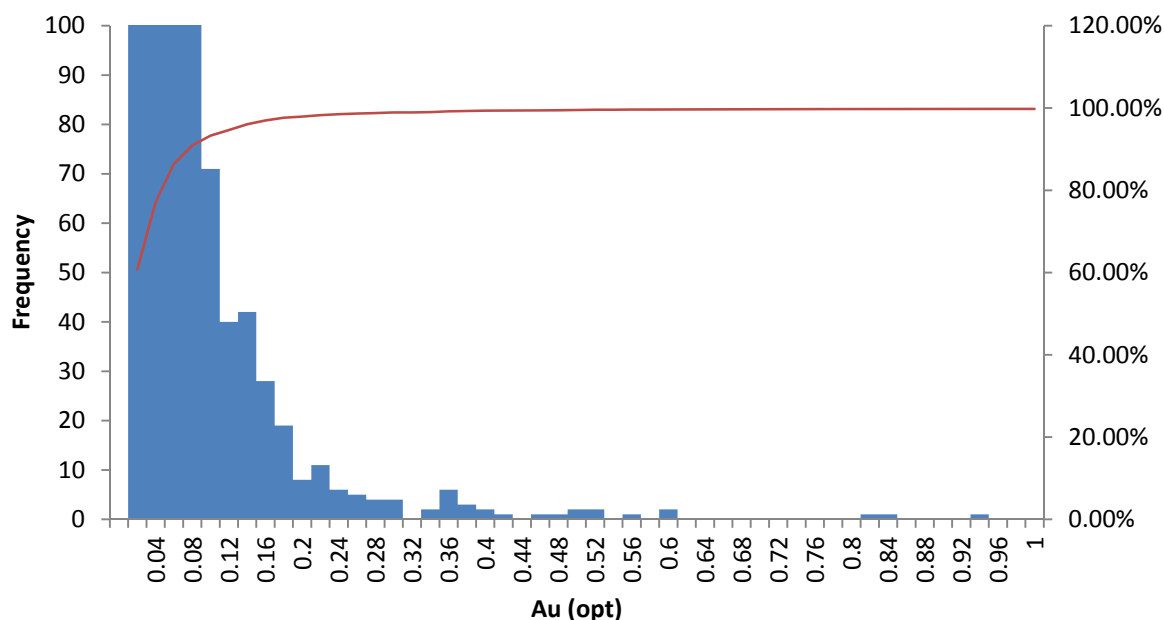
The descriptive statistics of the open pit resource assays are presented in Table 14-40. The histogram of the open pit resource assays is shown in Figure 14-35.

**TABLE 14-40 OPEN PIT ASSAYS**  
**Lexam VG Gold Inc. - Paymaster Property**

| Item    | Au<br>(opt) | Au<br>(opt) |
|---------|-------------|-------------|
| Count   | 2,966       | 2,966       |
| Mean    | 0.041       | 0.035       |
| Median  | 0.015       | 0.015       |
| Std Dev | 0.223       | 0.064       |
| Minimum | 0.000       | 0.000       |
| Maximum | 10.675      | 0.700       |

**FIGURE 14-35 OPEN PIT RESOURCE ASSAY HISTOGRAM**

**(n=2966)**



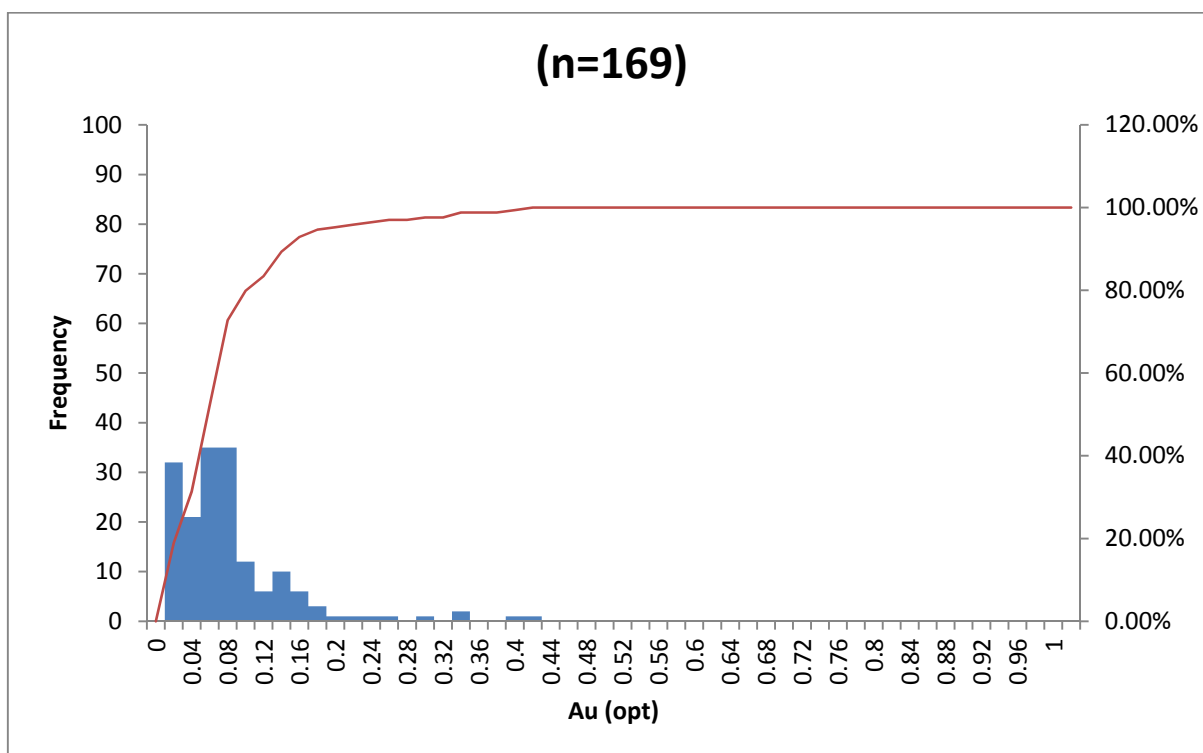
### UNDERGROUND RESOURCE ASSAYS

The descriptive statistics of the underground resource assays are presented in Table 14-41. The histogram of the underground resource assays is shown in Figure 14-36.

**TABLE 14-41 UNDERGROUND ASSAYS**  
**Lexam VG Gold Inc. - Paymaster Property**

| Item    | Au<br>(opt) | CAu<br>(opt) |
|---------|-------------|--------------|
| Count   | 169         | 169          |
| Mean    | 0.071       | 0.071        |
| Median  | 0.059       | 0.059        |
| Std Dev | 0.069       | 0.069        |
| Minimum | 0.000       | 0.000        |
| Maximum | 0.410       | 0.410        |

**FIGURE 14-36 UNDERGROUND RESOURCE ASSAY HISTOGRAM**



### CAPPING OF HIGH ASSAYS

Decile analysis, cumulative frequency log probability plots, and histograms of the resource assays for the open pit indicate a capping value of 0.7 opt Au. A total of 10 samples in the open pit intercepts were capped and this reduced the average gold grade of the open pit resource assays by approximately 20%.

The underground resource samples had assay values below the open pit capping level. Consequently, it was considered that no capping was necessary for the underground.



## COMPOSITES

### OPEN PIT COMPOSITES

The open pit intercepts were composited at five foot fixed lengths, from collar to toe. The intercepts have internal dilution representing samples with grades below the wireframing cut-off, resulting in some very low grade full length composites inside the wireframe and a number of higher grade orphans at the footwall of the mineralized wireframe. The descriptive statistics (Table 14-42) indicate that orphans shorter than 50% composite length have mean values for capped gold grade larger by approximately 50% than all the composites and orphans together. By filtering out the composites grading less than 0.010 opt Au, representing internal dilution, the mean values for all composites greater than 0.010 opt Au and for orphans shorter than 50% composite length become similar, indicating that removal of short orphans is not necessary. Consequently, RPA used all 2,803 composites.

**TABLE 14-42 COMPOSITES AND ORPHANS**  
**Lexam VG Gold Inc. - Paymaster Property**

| Item    | Composites 2.5 to 5.0 ft   |          |              | Orphans 0 to 2.5 ft     |          |              |
|---------|----------------------------|----------|--------------|-------------------------|----------|--------------|
|         | Length (ft)                | Au (opt) | Cut Au (opt) | Length (ft)             | Au (opt) | Cut Au (opt) |
| Count   | 2,704                      | 2,704    | 2,704        | 99                      | 99       | 99           |
| Mean    | 4.95                       | 0.040    | 0.032        | 1.21                    | 0.051    | 0.049        |
| Median  | 5.00                       | 0.017    | 0.017        | 1.20                    | 0.026    | 0.026        |
| Std Dev | 0.29                       | 0.21     | 0.05         | 0.68                    | 0.10     | 0.08         |
| Minimum | 2.50                       | 0.000    | 0.000        | 0.02                    | 0.000    | 0.000        |
| Maximum | 5.00                       | 8.561    | 0.700        | 2.40                    | 0.933    | 0.700        |
| CV      | 0.06                       | 5.25     | 1.56         | 0.56                    | 1.96     | 1.63         |
| Item    | All composites 0 to 5.0 ft |          |              | Composites Au>0.010 opt |          |              |
|         | Length (m)                 | Au (opt) | Cut Au (opt) | Length (m)              | Au (opt) | Cut Au (opt) |
| Count   | 2803                       | 2803     | 2803         | 1912                    | 1912     | 1912         |
| Mean    | 4.81                       | 0.040    | 0.033        | 4.76                    | 0.057    | 0.046        |
| Median  | 5.00                       | 0.018    | 0.018        | 5.00                    | 0.030    | 0.030        |
| Std Dev | 0.76                       | 0.21     | 0.05         | 0.86                    | 0.25     | 0.06         |
| Minimum | 0.02                       | 0.000    | 0.000        | 0.02                    | 0.010    | 0.010        |
| Maximum | 5.00                       | 8.561    | 0.700        | 5.00                    | 8.561    | 0.700        |
| CV      | 0.16                       | 5.25     | 1.52         | 0.18                    | 4.39     | 1.30         |

### UNDERGROUND COMPOSITES

The underground resource composites are full drill hole intercepts inside the higher grade set of wireframes. Table 14-43 presents descriptive statistics of the underground composites.

**TABLE 14-43 UNDERGROUND COMPOSITES**  
**Lexam VG Gold Inc. - Paymaster Property**

| Item    | Au<br>(opt) | CAu<br>(opt) |
|---------|-------------|--------------|
| Count   | 63          | 63           |
| Mean    | 0.088       | 0.088        |
| Median  | 0.067       | 0.067        |
| Std Dev | 0.069       | 0.069        |
| Minimum | 0.003       | 0.003        |
| Maximum | 0.398       | 0.398        |

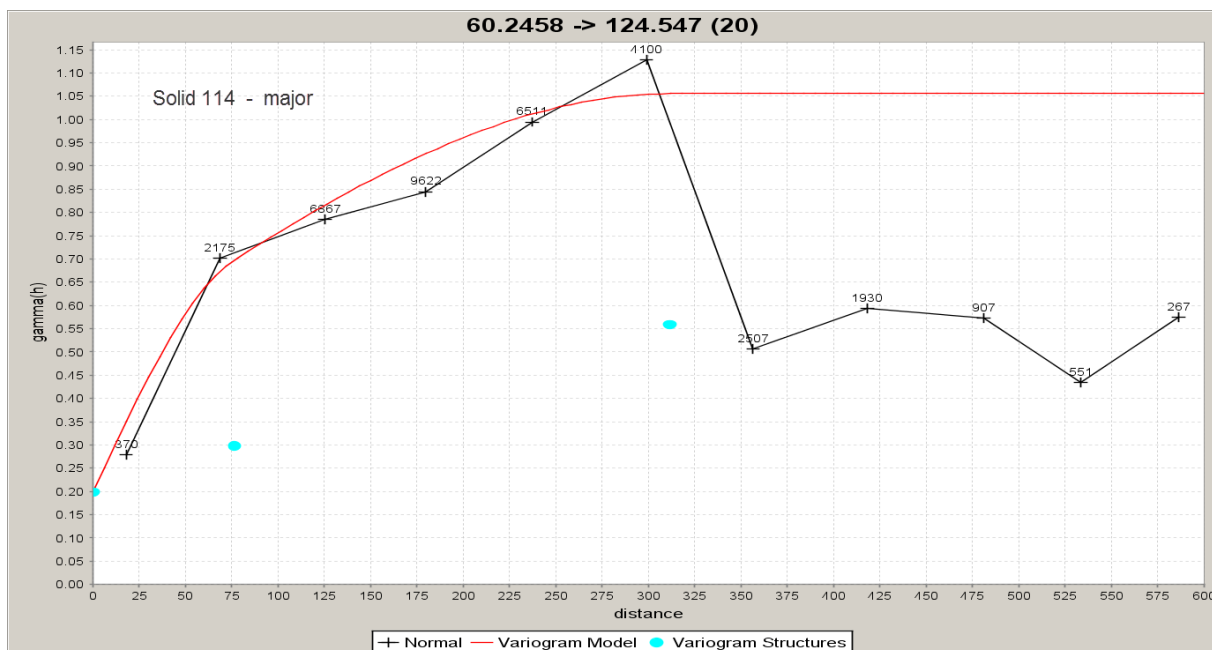
## VARIOGRAPHY

Variographic analysis was performed on Paymaster composites for both open pit and underground domains to determine the maximum ranges of the search ellipses used in the interpolation stages.

### OPEN PIT VARIOGRAPHY

Composites from the main mineralized body on the Paymaster property and straddling the underground developments, labelled solid 114, were used for variographic analysis. RPA interpreted ranges of up to 300 ft (Figure 14-37) in the plane of the solid, however, the two longest ranges were not orthogonal, most likely due to the drilling pattern.

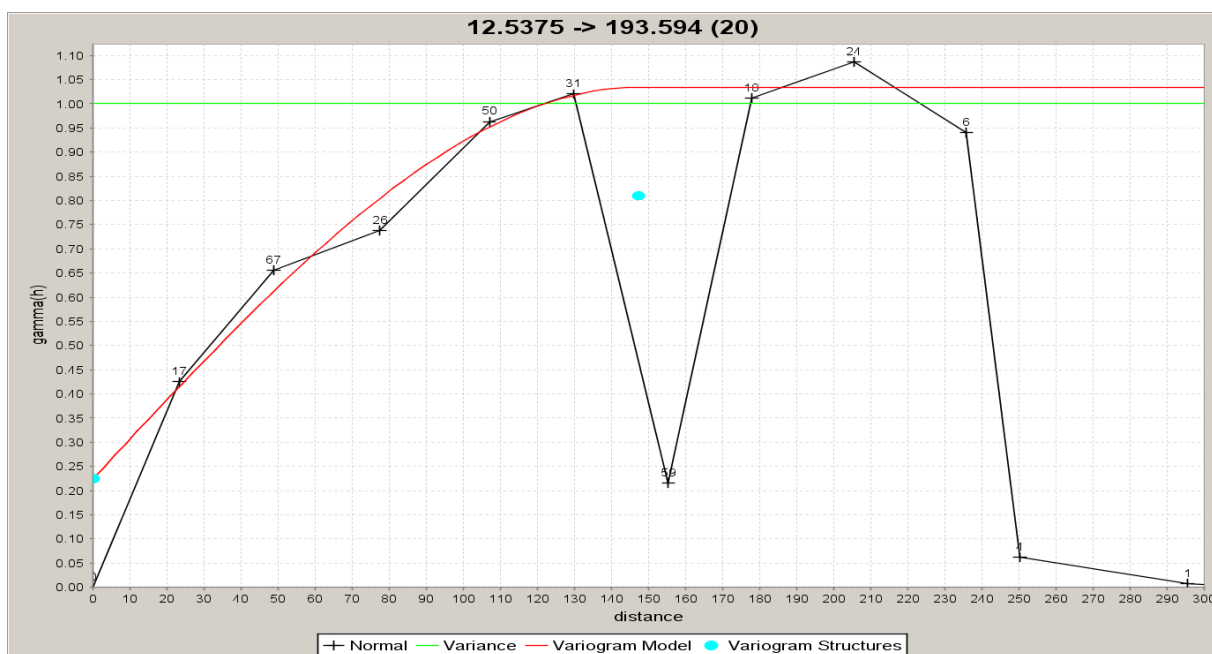
**FIGURE 14-37 OPEN PIT MAJOR AXIS FOR SOLID 114**



### UNDERGROUND VARIOGRAPHY

The modelled underground solids had a small number of intercepts and generally had large drill hole spacings. The variogram using the composites from the main mineralized solid (114) with gold values higher than 0.04 opt Au showed ranges of up to 150 ft (Figure 14-38).

**FIGURE 14-38 UNDERGROUND MAJOR AXIS FOR HIGHER GRADE COMPOSITES IN SOLID 114**



### SPECIFIC GRAVITY

Specific gravity (SG) measurements were performed on core from the 2009-2012 drilling on the Paymaster Property. The average values by lithology are presented in Table 14-44.

**TABLE 14-44 DENSITY TESTWORK**  
Lexam VG Gold Inc. - Paymaster Property

| Lithology                | SG<br>(g/cm <sup>3</sup> ) | SG<br>(st/ft <sup>3</sup> ) | Count |
|--------------------------|----------------------------|-----------------------------|-------|
| Ultramafic               | 2.87                       | 0.089584                    | 33    |
| Mafic                    | 2.82                       | 0.088023                    | 39    |
| Quartz feldspar porphyry | 2.71                       | 0.084590                    | 105   |
| Overburden               | 1.80                       | 0.056185                    | -     |

Blocks were flagged with the SG value based on the lithological domains. All the mineralized blocks were designated as quartz feldspar porphyry.

## BLOCK MODEL SETUP

The open pit and underground block models have the same dimensions, origins, and block sizes and have been defined in GEMS as two separate workspaces. The block model origin, extent, and block size are listed in Table 14-45.

**TABLE 14-45 BLOCK MODEL DEFINITION**  
**Lexam VG Gold Inc. - Paymaster Property**

| <b>Origin</b>           | <b>Value</b> |
|-------------------------|--------------|
| X (ft)                  | 4,200        |
| Y (ft)                  | 6,600        |
| Z (ft)                  | 11,300       |
| Rotation                | 0            |
| <b>Block size</b>       |              |
| Column (ft)             | 10           |
| Row (ft)                | 10           |
| Level (ft)              | 10           |
| <b>Number of blocks</b> |              |
| Columns                 | 440          |
| Rows                    | 380          |
| Levels                  | 220          |

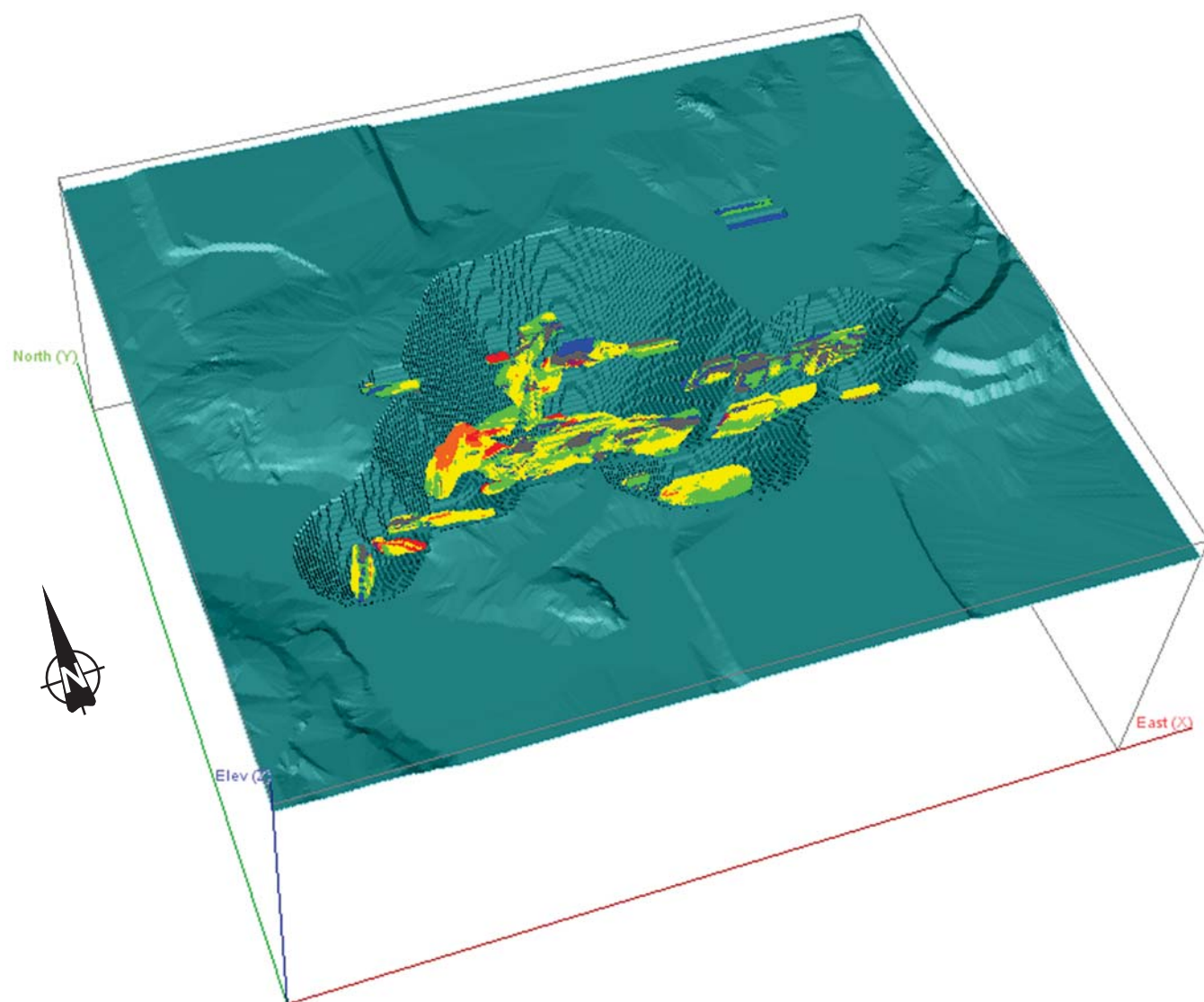
## INTERPOLATION PARAMETERS

The open pit model used search ellipses with major and semi-major radii of 150 ft for the first pass and 300 ft for the second and inverse distance to the 5th power ( $ID^5$ ) for grade interpolation, while the underground model used search radii of 150 ft combined with an  $ID^3$  method. RPA used a higher exponent to interpolate the open pit model in order to help reduce the lateral interaction between the mineralization and internal waste bands included in some of the open pit resource wireframes. Numerous search ellipsoid orientations were used to ensure that the search neighbourhood was consistent with the orientation of the resource wireframes. Details of the interpolation parameters for open pit and underground block models are listed in Table 14-46.

The open pit interpolated block grades, based on capped gold grades, are presented in Figure 14-39. The underground interpolated blocks are shown in Figure 14-40.

**TABLE 14-46 BLOCK MODEL INTERPOLATION PARAMETERS**  
 Lexam VG Gold Inc. - Paymaster Property

| Solid   | Ellipse  | Anisotropy |           |       | Rotation |     |             | Sample selection |     |                    | Interpolation Method |
|---|----------|------------|-----------|-------|----------|-----|-------------|------------------|-----|--------------------|----------------------|
|   |          | Major      | Semimajor | Minor | Azimuth  | Dip | Interm Azim | Min              | Max | Max per drill hole |                      |
| 133, 134, 135   | EW_35    | 150        | 150       | 25    | 180      | 35  | 90          | 1                | 10  | 2                  | ID <sup>5</sup>      |
|   | EW_35_2  | 300        | 300       | 60    | 180      | 35  | 90          | 1                | 10  | 2                  | ID <sup>5</sup>      |
| 116, 120, 131, 132  | EW_45    | 150        | 150       | 25    | 180      | 45  | 90          | 1                | 10  | 2                  | ID <sup>5</sup>      |
|   | EW_45_2  | 300        | 300       | 60    | 180      | 45  | 90          | 1                | 10  | 2                  | ID <sup>5</sup>      |
| 103, 104, 106, 107, 108, 110, 111, 113, 114, 117, 119, 121, 126, 127, 128, 129, 130 | EW_65    | 150        | 150       | 25    | 180      | 65  | 90          | 1                | 10  | 2                  | ID <sup>5</sup>      |
|   | EW_65_2  | 300        | 300       | 60    | 180      | 65  | 90          | 1                | 10  | 2                  | ID <sup>5</sup>      |
| 101, 102, 105, 109, 112, 118, 122, 136, 137   | EW_75    | 150        | 150       | 25    | 180      | 75  | 90          | 1                | 10  | 2                  | ID <sup>5</sup>      |
|   | EW_75_2  | 300        | 300       | 60    | 180      | 75  | 90          | 1                | 10  | 2                  | ID <sup>5</sup>      |
| 115   | NNE_50   | 150        | 150       | 25    | 160      | 50  | 30          | 1                | 10  | 2                  | ID <sup>5</sup>      |
|   | NNE_50_2 | 300        | 300       | 60    | 160      | 50  | 30          | 1                | 10  | 2                  | ID <sup>5</sup>      |
| 124   | N_80     | 150        | 150       | 25    | 160      | 80  | 15          | 1                | 10  | 2                  | ID <sup>5</sup>      |
|   | N_80_2   | 300        | 300       | 60    | 160      | 80  | 15          | 1                | 10  | 2                  | ID <sup>5</sup>      |
| 123   | SSW_45   | 150        | 150       | 25    | 150      | 45  | 120         | 1                | 10  | 2                  | ID <sup>5</sup>      |
|   | SSW_45_2 | 300        | 300       | 60    | 150      | 45  | 120         | 1                | 10  | 2                  | ID <sup>5</sup>      |
| 2114  | EW2_90   | 150        | 150       | 25    | 180      | 90  | 50          | 1                | 10  | 2                  | ID <sup>5</sup>      |
|   | EW2_90_2 | 300        | 300       | 60    | 180      | 90  | 50          | 1                | 10  | 2                  | ID <sup>5</sup>      |
| 3114  | EW3_60   | 150        | 150       | 25    | 180      | 60  | 95          | 1                | 10  | 2                  | ID <sup>5</sup>      |
|   | EW3_60_2 | 300        | 300       | 60    | 180      | 60  | 95          | 1                | 10  | 2                  | ID <sup>5</sup>      |
| 4114  | EW4_75   | 150        | 150       | 25    | 180      | 75  | 100         | 1                | 10  | 2                  | ID <sup>5</sup>      |
|   | EW4_75_2 | 300        | 300       | 60    | 180      | 75  | 100         | 1                | 10  | 2                  | ID <sup>5</sup>      |
|   |          |            |           |       |          |     |             |                  |     |                    |                      |
| UG1, UG2, UG3, UG4  | UG       | 150        | 150       | 150   | 0        | 0   | 0           | 2                | 12  | 1                  | ID <sup>3</sup>      |
|   | UG       | 150        | 150       | 150   | 0        | 0   | 0           | 1                | 12  | 1                  | ID <sup>3</sup>      |



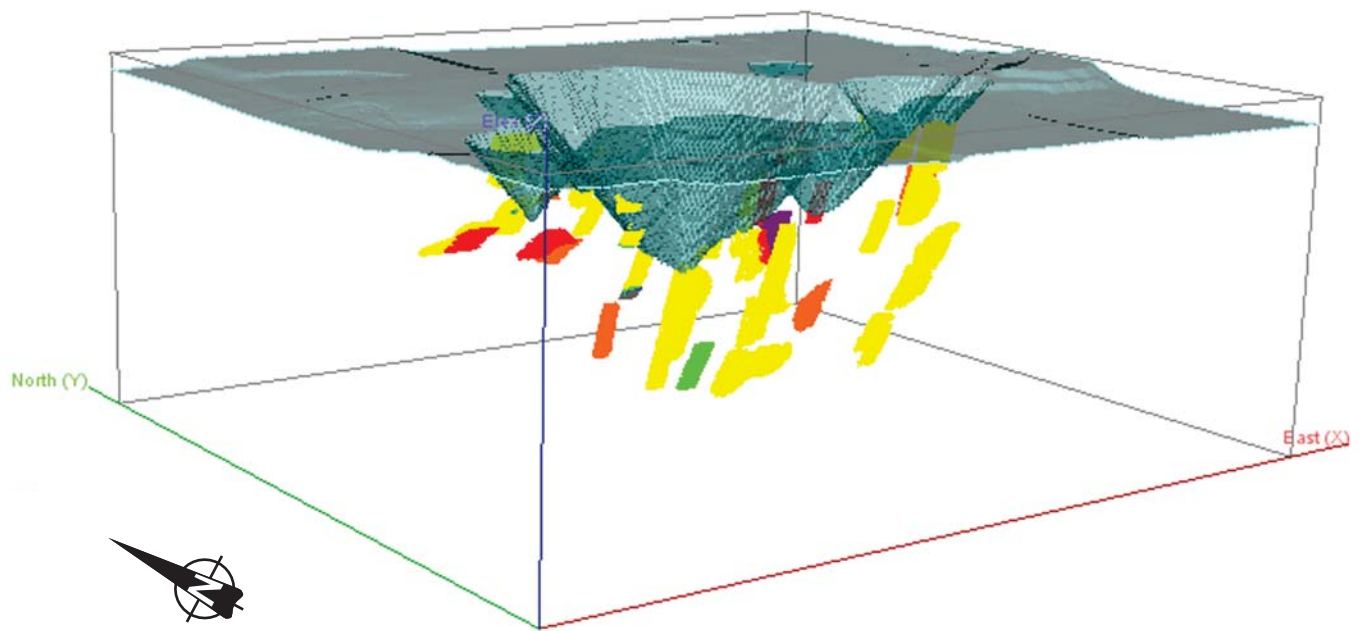
**Legend: Au (opt)**

|  |                   |
|--|-------------------|
| <span style="display: inline-block; width: 10px; height: 10px; background-color: black; border: 1px solid black;"></span>    | < 0.00001         |
| <span style="display: inline-block; width: 10px; height: 10px; background-color: darkgrey; border: 1px solid black;"></span> | 0.00001 - 0.01200 |
| <span style="display: inline-block; width: 10px; height: 10px; background-color: blue; border: 1px solid black;"></span>     | 0.01200 - 0.01500 |
| <span style="display: inline-block; width: 10px; height: 10px; background-color: green; border: 1px solid black;"></span>    | 0.01500 - 0.03000 |
| <span style="display: inline-block; width: 10px; height: 10px; background-color: yellow; border: 1px solid black;"></span>   | 0.03000 - 0.10000 |
| <span style="display: inline-block; width: 10px; height: 10px; background-color: orange; border: 1px solid black;"></span>   | 0.10000 - 0.15000 |
| <span style="display: inline-block; width: 10px; height: 10px; background-color: red; border: 1px solid black;"></span>      | 0.15000 - 0.32000 |
| <span style="display: inline-block; width: 10px; height: 10px; background-color: purple; border: 1px solid black;"></span>   | > 0.32000         |

Figure 14-39

**Lexam VG Gold Inc.**  
**Paymaster Property**  
 Porcupine Mining Division  
 North-Eastern Ontario, Canada  
**Open Pit Blocks - Gold Grades**  
**Inside the Pit**





**Legend: Au (opt)**

|           |                   |
|-----------|-------------------|
| Black     | < 0.00001         |
| Dark Grey | 0.00001 - 0.01200 |
| Blue      | 0.01200 - 0.01500 |
| Green     | 0.01500 - 0.03000 |
| Yellow    | 0.03000 - 0.10000 |
| Orange    | 0.10000 - 0.15000 |
| Red       | 0.15000 - 0.32000 |
| Purple    | > 0.32000         |

Figure 14-40

**Lexam VG Gold Inc.**

***Paymaster Property***

*Porcupine Mining Division*

*North-Eastern Ontario, Canada*

**Underground Blocks**

**Gold Grades Below the Pit**

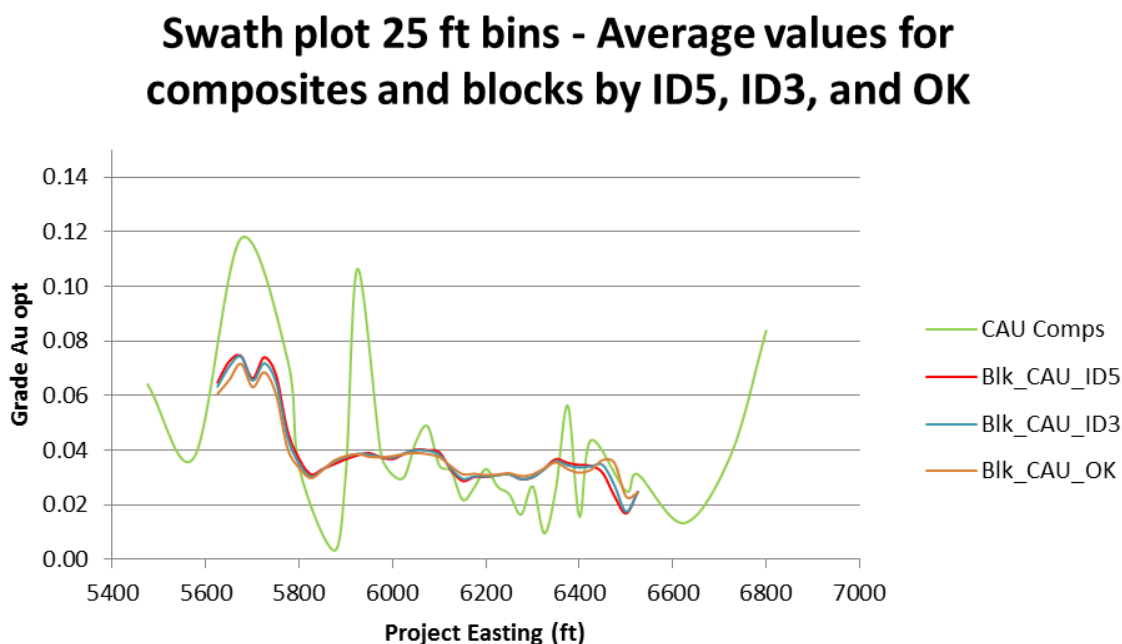
## BLOCK MODEL VALIDATION

The interpolated block grades were visually compared in section and plan view with the grades of the composites, for both the open pit and the underground. In general, the block grades correlate well spatially with the composite grades. There are some areas with visible, slightly misaligned grade bands that are due to local differences between the search ellipsoid and resource wireframe orientations. In RPA's opinion, this is a minor issue that could be improved in future models by adding more search domains.

For the open pit resource estimate, along with the ID<sup>5</sup> interpolation method, RPA also used ID<sup>3</sup> and OK methods, which rendered similar grades. Swath plots showing interpolated block gold grades using various methods versus the composite gold grades are presented in Figure 14-41.

In the opinion of RPA, the block model is a reasonable representation of the tonnage and grade for the gold mineralization of the Paymaster Property.

**FIGURE 14-41 OPEN PIT SWATH PLOT – COMPARISON OF VARIOUS INTERPOLATION METHODS AND COMPOSITES FOR CAPPED AU OPT**



## CLASSIFICATION

The open pit blocks interpolated in the first and second passes were classified as Inferred Resources, and then classification of the blocks that were within 150 ft from two drill holes, for each mineralized wireframe, was changed to the Indicated Resource category. Figure 14-42 shows the Indicated and Inferred Resource blocks in the open pit.

All the underground resource blocks were classified as Inferred Resources. The drilling was focused on the potential open pit target, resulting in relatively sparse drilling in the underground domain.

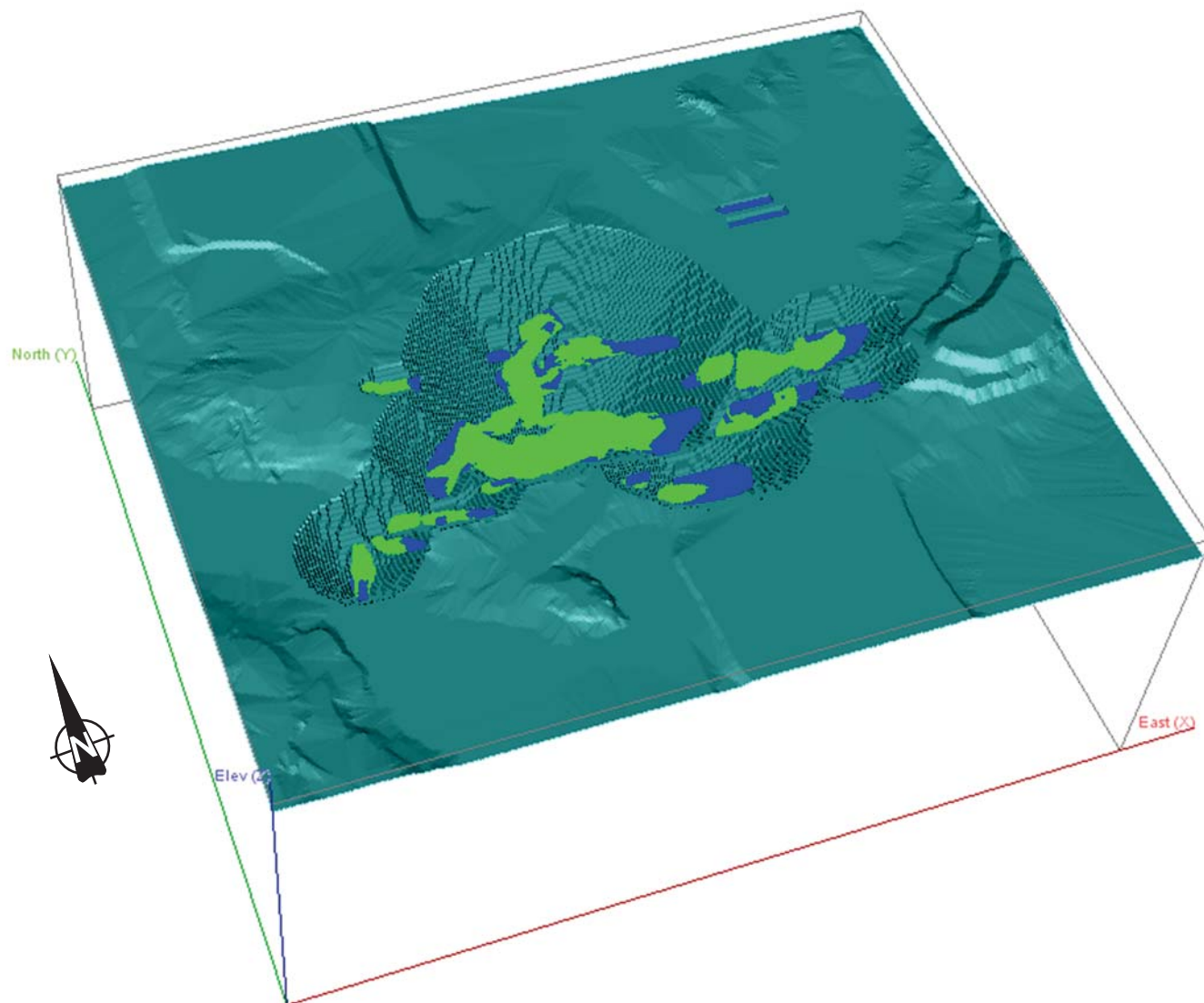
## OPEN PIT OPTIMIZATION

The block model generated in Gemcom GEMS was transferred to Whittle for the pit optimization exercise. The block model was reblocked to a block size of 20 ft x 20 ft x 20 ft to reduce the number of blocks and implicitly the processing time. The parameters used in the optimization process are listed in Table 14-47.

**TABLE 14-47 PIT OPTIMIZATION FACTORS**  
**Lexam VG Gold Inc. - Paymaster Property**

| Item                   | Value                                 |
|------------------------|---------------------------------------|
| Pit Slopes             | -50°                                  |
| Mining Cost            | \$1.68/st (converted from \$1.85/t)   |
| Process Cost           | \$14.52/st (converted from \$16.00/t) |
| Recovery               | 90%                                   |
| Au Price               | \$1,600/oz                            |
| Block Size (Reblocked) | 20 x 20 x 20 ft                       |

The revenue factor 1 pit was then transferred to Gemcom GEMS for open pit resource reporting and served as the upper limit for the underground domain. The open pit resources were reported using a 0.015 opt cut-off grade.



**Legend: Classification**

- Inferred
- Indicated

Figure 14-42

**Lexam VG Gold Inc.**

***Paymaster Property***

*Porcupine Mining Division  
North-Eastern Ontario, Canada*

**Open Pit Indicated and  
Inferred Blocks**

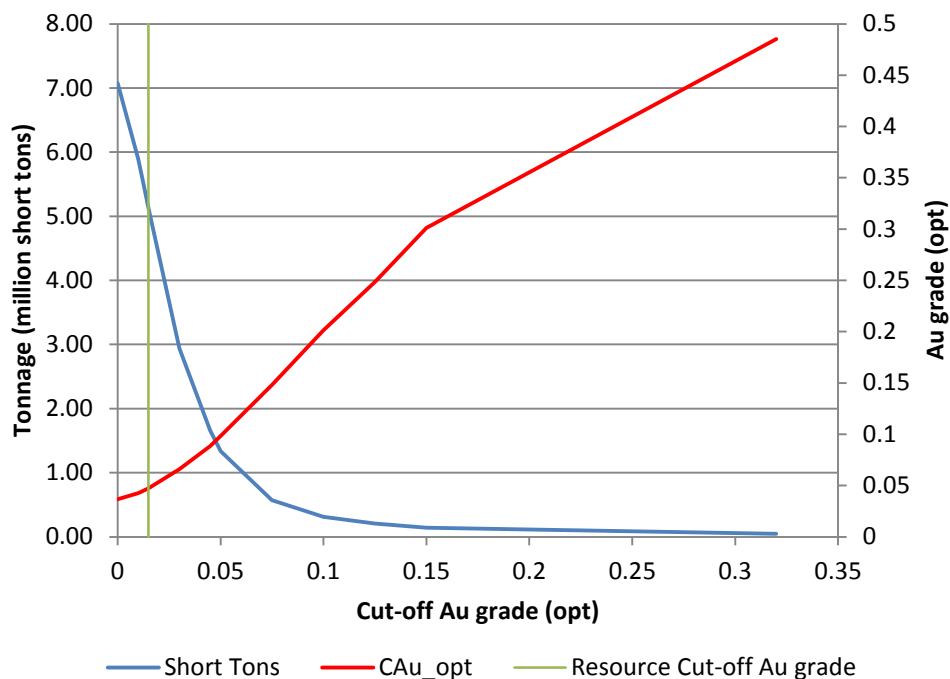
## SENSITIVITY ANALYSIS

The open pit Mineral Resources are sensitive to the cut-off grade in the 0.015 opt Au to 0.05 opt Au range and moderately sensitive to cut-off grades higher than 0.05 opt Au. Table 14-48 presents the tonnage, grade, and ounces at various cut-off values. Figures 14-43 and 14-44 show the grade-tonnage curves for the open pit Indicated and Inferred Resources.

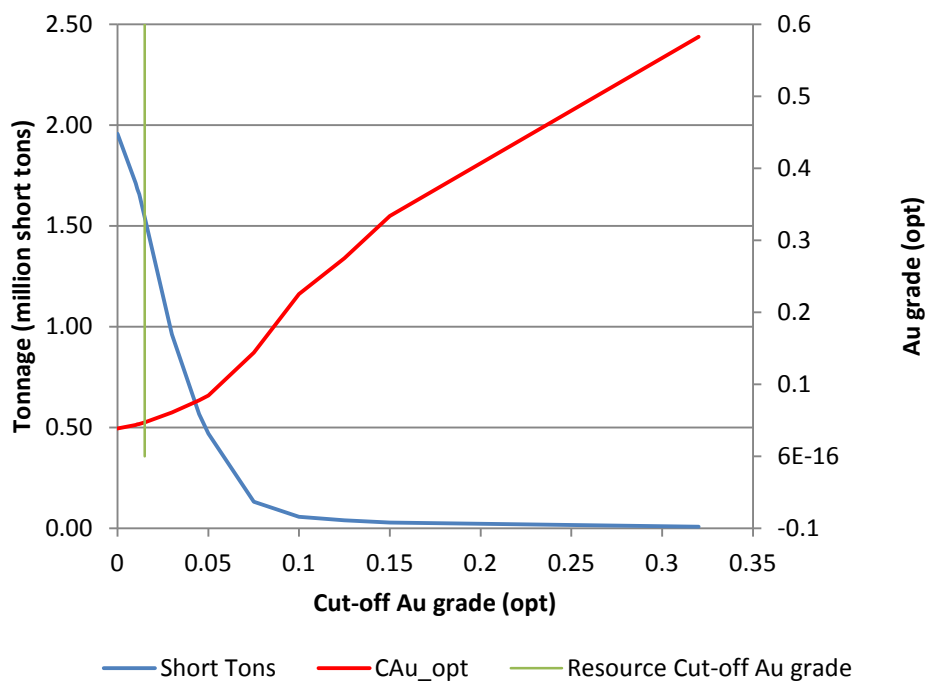
**TABLE 14-48 GRADE AND TONNAGE AT VARIOUS CUT-OFF GRADES**  
**Lexam VG Gold Inc. - Paymaster Property**

| Classification          | Cut-off Grade<br>(opt Au) | Tonnage<br>(st)  | Grade<br>(opt Au) | Gold<br>(oz)   |
|-------------------------|---------------------------|------------------|-------------------|----------------|
| Open Pit<br>Indicated   | ≥0.320                    | 48,836           | 0.485             | 23,697         |
|                         | ≥0.150                    | 140,203          | 0.301             | 42,217         |
|                         | ≥0.125                    | 205,273          | 0.249             | 51,025         |
|                         | ≥0.100                    | 312,292          | 0.201             | 62,905         |
|                         | ≥0.075                    | 573,880          | 0.148             | 84,973         |
|                         | ≥0.050                    | 1,336,024        | 0.098             | 131,314        |
|                         | ≥0.045                    | 1,660,044        | 0.088             | 146,684        |
|                         | ≥0.030                    | 2,937,641        | 0.066             | 193,856        |
|                         | <b>≥0.015</b>             | <b>5,134,849</b> | <b>0.047</b>      | <b>242,383</b> |
| Open Pit<br>Inferred    | ≥0.320                    | 8,299            | 0.583             | 4,834          |
|                         | ≥0.150                    | 27,823           | 0.334             | 9,281          |
|                         | ≥0.125                    | 39,485           | 0.275             | 10,864         |
|                         | ≥0.100                    | 57,199           | 0.225             | 12,887         |
|                         | ≥0.075                    | 132,264          | 0.144             | 19,040         |
|                         | ≥0.050                    | 469,876          | 0.084             | 39,554         |
|                         | ≥0.045                    | 567,099          | 0.078             | 44,163         |
|                         | ≥0.030                    | 962,366          | 0.061             | 58,585         |
|                         | <b>≥0.015</b>             | <b>1,541,873</b> | <b>0.047</b>      | <b>72,495</b>  |
| Underground<br>Inferred | ≥0.320                    | 12,093           | 0.393             | 4,752          |
|                         | ≥0.150                    | 129,284          | 0.242             | 31,282         |
|                         | ≥0.125                    | 155,146          | 0.226             | 35,037         |
|                         | ≥0.100                    | 189,110          | 0.205             | 38,788         |
|                         | <b>≥0.075</b>             | <b>239,066</b>   | <b>0.179</b>      | <b>42,857</b>  |
|                         | ≥0.050                    | 836,503          | 0.097             | 81,072         |
|                         | ≥0.045                    | 909,353          | 0.093             | 84,529         |
|                         | ≥0.030                    | 1,059,626        | 0.086             | 90,771         |
|                         | ≥0.015                    | 1,098,545        | 0.083             | 91,624         |

**FIGURE 14-43 OPEN PIT INDICATED RESOURCES – GRADE-TONNAGE CURVE**



**FIGURE 14-44 OPEN PIT INFERRED RESOURCES – GRADE-TONNAGE CURVE**



## COMPARISON WITH PREVIOUS RESOURCE ESTIMATE

The current 2013 Mineral Resource estimate is compared with the previous, 2010 Mineral Resource estimate (Guy and Bevan, 2010) in Table 14-49.

**TABLE 14-49 COMPARISON WITH DECEMBER 2010 RESOURCE ESTIMATE**  
**Lexam VG Gold Inc. - Paymaster Property**

| Year                   | Classification  | Cut-off<br>(opt Au) | Tonnage<br>(st)  | Grade<br>(opt Au) | Gold<br>(oz)   |
|------------------------|-----------------|---------------------|------------------|-------------------|----------------|
| 2013                   | Open Pit        |                     |                  |                   |                |
|                        | Indicated       | ≥0.015              | 5,135,000        | 0.047             | 242,000        |
|                        | Inferred        | ≥0.015              | 1,542,000        | 0.047             | 72,000         |
|                        | Underground     |                     |                  |                   |                |
|                        | Indicated       | -                   | -                | -                 | -              |
|                        | Inferred        | ≥0.075              | 239,000          | 0.179             | 43,000         |
| <b>Total Indicated</b> |                 |                     | <b>5,135,000</b> | <b>0.047</b>      | <b>242,000</b> |
| <b>Total Inferred</b>  |                 |                     | <b>1,781,000</b> | <b>0.065</b>      | <b>115,000</b> |
| 2010                   | Total Indicated | ≥0.015              | 3,562,511        | 0.053             | 189,082        |
|                        | Total Inferred  | ≥0.015              | 3,071,876        | 0.050             | 154,404        |

The historical estimation was done in panels spanning half distance between sections, while on section the intercept grade was projected halfway between drill holes. The capping value applied in the 2010 estimate was 1.0 opt Au and the reporting cut-off value was 0.015 opt Au.

Additional drilling was available for the 2013 resource estimate. Mineralized intercepts from 24 new drill holes for both open pit and underground domains were used in the current estimate.

In the current estimate, the open pit grades are lower by 11% for Indicated and by 9% for Inferred Resources with respect to the 2010 estimate. The difference represents the cumulative effect of different capping levels, extra drilling, 3D wireframing, as well as constraining the resources inside a pit shell.



The total resource ounces show almost a 30% increase for Indicated Resources and a 10% increase for Inferred Resources.

## **P&E 2013 DAVIDSON TISDALE PROPERTY MINERAL RESOURCE ESTIMATE FOR THE NORTH AND SOUTH ZONES**

### **SUMMARY**

The Mineral Resource estimate presented herein is reported in accordance with the Canadian Securities Administrators' National Instrument 43-101 and has been performed in conformity with generally accepted CIM "Estimation of Mineral Resource and Mineral Reserves Best Practices" guidelines. This Mineral Resource estimate was prepared by Yungang Wu, P.Geo., Eugene Puritch, P.Eng., and Antoine Yassa, P.Geo. of P&E. The effective date of this resource estimate is April 2, 2013.

### **DATABASE**

All drill data were provided by Lexam, in the form of a Gemcom GEMS 6.4 database as a Microsoft Access .mdb file. The Gemcom database consisted of a total of 398 surface and 287 underground drill holes, of which 430 holes intersected the mineralized domains and were utilized for this Mineral Resource estimation. The remaining data were not in the area that was modeled for this Mineral Resource estimate. Surface and underground drill hole plans are shown in Appendix 1.

The database for the Davidson Tisdale Property contained 13,852 Au assays of which 4,878 assays were utilized for this Mineral Resource estimate. P&E validated the database in Gemcom and corrections were made in order to bring it to an error free status. All drill hole survey assay values are expressed in metric units, while grid coordinates are in a local metric system.

### **DATA VERIFICATION**

Au assays were validated by P&E against original laboratory certificates of analysis. A total of 4,493 assay results from the recent drilling were verified. This comprised 73.8% of the recent database that was verified and 18.6% of the entire database.

## DOMAIN INTERPRETATION

Four mineralized domains were created with computer screen digitizing on drill hole sections in Gemcom by the authors of this report. The domain outlines were determined from lithology, structure and Au grade by visually inspecting the drill hole cross sections. Nineteen drill cross sections were developed on a 25 m spacing looking northeast on an azimuth of 60°. The digitized outlines were influenced by the selection of mineralized material above a cut-off 0.3 g/t Au that demonstrated zonal continuity along strike and down dip. In some cases, mineralization below 0.3 g/t Au was included for the purpose of maintaining zonal continuity. On each section, polyline interpretations were digitized from drill hole to drill hole but not extended nominally more than 25 m into untested territory. Minimum constrained true width for interpretation was approximately two metres. The interpreted polylines from each section were “wireframed” in Gemcom into a 3D domain. The resulting domain was utilized for statistical analysis, grade interpolation, rock coding and resource reporting purposes. Wireframes of the mineralized domains are displayed in Appendix 2.

A Topographic and overburden surface were created based on the drill hole collars and logs. A void solid of underground workings was provided by Lexam.

## ROCK CODE DETERMINATION

All mineralized domain solids were assigned rock codes respectively for purpose of resource estimating. The domain geometric volumes and rock codes applied for the resource modeling are presented in Table 14-50.

**TABLE 14-50 GEOMETRIC VOLUME AND ROCK CODE DESCRIPTION  
FOR DAVIDSON TISDALE PROJECT**

**Lexam VG Gold Inc. – Davidson Tisdale Property**

| Domains | Rock Codes | Volume (m <sup>3</sup> ) |
|---------|------------|--------------------------|
| A-Zone  | 10         | 46,022                   |
| B-Zone  | 20         | 497,046                  |
| C-Zone  | 30         | 114,284                  |
| Misc    | 40         | 34,134                   |
| Air     | 0          |                          |
| OVb     | 5          |                          |
| Waste   | 99         |                          |
| Void    | 100        |                          |

## STATISTICAL ANALYSIS

The statistical analysis of the constrained Au raw assay and sample length is summarized in Table 14-51, which gives a mean of 4.97g/t Au with a maximum value of 1,649.2g/t Au.

**TABLE 14-51 SUMMARY STATISTICS OF THE  
CONSTRAINED AU RAW ASSAYS**  
Lexam VG Gold Inc. – Davidson Tisdale Property

| Variable                 | Au (g/t) | Length (m) |
|--------------------------|----------|------------|
| Number of samples        | 4,876    | 4,876      |
| Minimum value            | 0.001    | 0.03       |
| Maximum value            | 1,49.2   | 2.20       |
| Mean                     | 4.973    | 0.82       |
| Median                   | 0.480    | 0.90       |
| Geometric Mean           | 0.202    | 0.75       |
| Variance                 | 1,432.05 | 0.126      |
| Standard Deviation       | 37.842   | 0.354      |
| Coefficient of variation | 7.609    | 0.430      |
| Skewness                 | 24.941   | 0.748      |
| Kurtosis                 | 875.779  | 3.018      |
| Natural Log Mean         | -1.602   | -0.285     |
| Log Variance             | 9.294    | 0.192      |

## GRADE CAPPING

Grade capping was investigated on the Au assays within the constraining domains to ensure that the possible influence of erratic high values did not bias the database. Au assay Log-normal histograms were generated and resulting graphs are exhibited in Appendix 3. Table 14-52 details the grade capping values. The capped Au assays were utilized for the compositing.

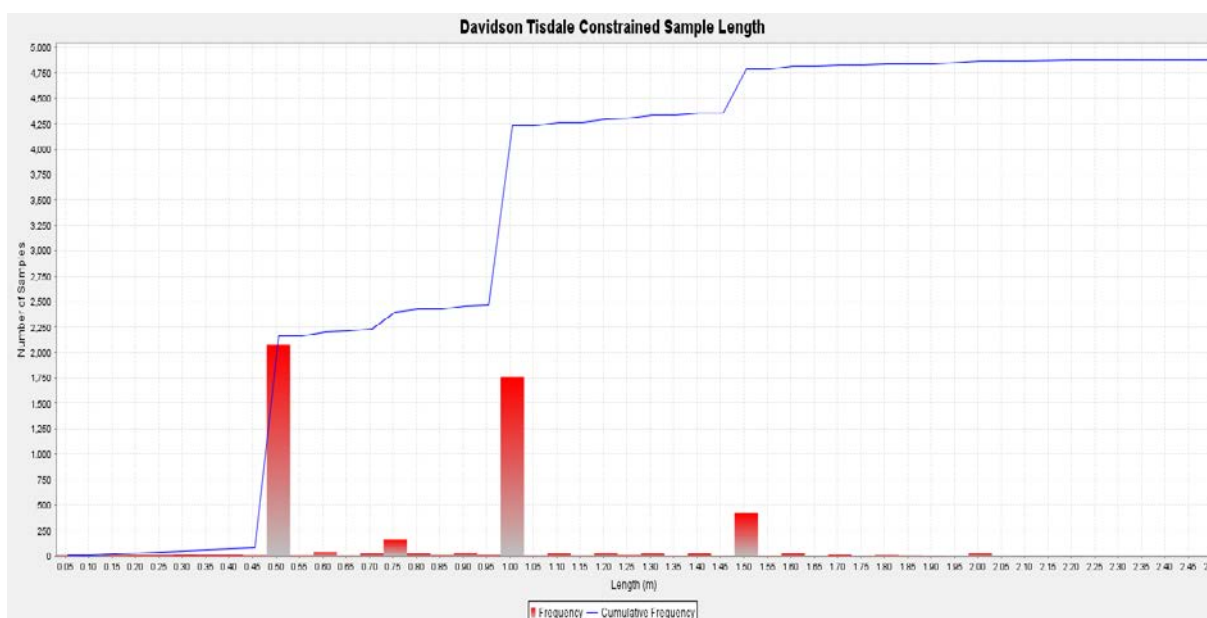
**TABLE 14-52 AU GRADE CAPPING VALUES**  
Lexam VG Gold Inc. – Davidson Tisdale Property

| Domains | Total #<br>of<br>Assays | Capping<br>Value Au<br>(g/t) | Number<br>of Assays<br>Capped | Raw<br>Coefficient<br>of Variation | Capped<br>Coefficient of<br>Variation | Capping<br>Percentile |
|---------|-------------------------|------------------------------|-------------------------------|------------------------------------|---------------------------------------|-----------------------|
| A-Zone  | 201                     | 50                           | 2                             | 3.04                               | 2.49                                  | 99.0%                 |
| B-Zone  | 3,355                   | 50                           | 57                            | 4.724                              | 2.519                                 | 98.3%                 |
| C-Zone  | 1,216                   | 50                           | 17                            | 4.54                               | 2.49                                  | 98.6%                 |
| Misc    | 104                     | 20                           | 5                             | 3.01                               | 1.96                                  | 95.2%                 |

## COMPOSITING

Table 14-51 depicts that the average constrained sample length was 0.82 m, and approximately 36% of the sample lengths within the constrained wireframe were one metre in length (Figure 14-45). In order to regularize the assay sample lengths for grade interpolation, assay compositing to one metre in length was carried out down hole within the constraints of the above mentioned domains. The composites were calculated for Au capped over one metre lengths starting at the first point of intersection between drill hole and hanging wall of the 3D zonal constraint. The compositing process was halted upon exiting from the footwall of the aforementioned constraint. Un-assayed intervals and below detection limit assays were set to 0.001 g/t Au. Any composites that were less than 0.25 m in length were discarded so as not to introduce any short sample bias in the Au grade interpolation process.

**FIGURE 14-45 DRILL HOLE ASSAY SAMPLE LENGTH DISTRIBUTION**



## SEMI-VARIOGRAMS

The variography investigation was attempted on the constrained composites. Reasonable variograms were developed along strike, down dip and across dip for the combination of all domains, B-Zone and C-Zone. The variogram ranges were used as the spherical search ellipse parameters for grade interpolation. The variograms of the B-Zone are shown in Appendix 4.

## BULK DENSITY

A total of 55 core samples were taken by Antoine Yassa, P.Geo. of P&E and analyzed at AGAT Laboratories in Mississauga, Ontario. The average bulk density 2.87t/m<sup>3</sup> of the 55 samples was applied to this resource estimate. P&E suggests that systematic density testing program should be undertaken in future drilling programs.

## BLOCK MODELING

The Davidson Tisdale resource block model was constructed using Gemcom modeling software. The block model is oriented with X axis at 60° azimuth (rotated 30° counter clockwise) parallel to the strike of the main mineralized domains. The block model parameters are shown in Table 14-53.

**TABLE 14-53 DAVIDSON TISDALE BLOCK  
MODEL PARAMETERS**

**Lexam VG Gold Inc. – Davidson Tisdale Property**

| Direction | Origin                  | # of Blocks | Block Size |
|-----------|-------------------------|-------------|------------|
| X         | 9,985                   | 166         | 5          |
| Y         | 9,260                   | 240         | 5          |
| Z         | 3,330                   | 88          | 5          |
| Rotation  | 30° (Counter Clockwise) |             |            |

Block models for rock type, density, percent, Au, and class were created. All blocks in the rock type block model were initially assigned a waste rock code of 99, corresponding to country rocks. The mineralized domains were used to update all blocks within the rock type block model that contained by a volume of 1.0% or greater Au mineralization. These blocks were assigned their appropriate individual rock codes as indicated in Table 14-50. The overburden surface and topographic surface were subsequently utilized to assign rock code 5 for overburden and 0 for air to all blocks 50 % or greater above the surfaces. A void provided by the client was employed to deplete the historic mined area by coding 100 to the blocks 50% or greater within the void wireframe.

A percent block model was set up to accurately represent the volume and subsequent tonnage that was occupied by each block inside the constraining domain. As a result, the domain boundary was properly represented by the percent model ability to measure individual infinitely variable block inclusion percentages within that domain.

The bulk density models were initialized to 2.87 t/m<sup>3</sup> for all Au mineralized blocks.

OK grade interpolation was utilized for grade interpolation based on the Au composites which were extracted from drill hole profiles into point profiles. Negative weights were set to zero. Grade blocks were interpolated using the parameters in Table 14-54.

**TABLE 14-54 BLOCK MODEL INTERPOLATION PARAMETERS**

**Lexam VG Gold Inc. – Davidson Tisdale Property**

| Pass | Strike Range (m) | Dip Range (m) | Across Dip Range (m) | Max # per Hole | Min # Sample | Max # Sample | % of Interpolated Blocks |
|------|------------------|---------------|----------------------|----------------|--------------|--------------|--------------------------|
| 1    | 15               | 12            | 8                    | 2              | 5            | 12           | 29%                      |
| 2    | 25               | 20            | 15                   | 2              | 3            | 12           | 37%                      |
| 3    | 50               | 40            | 30                   | 2              | 1            | 12           | 34%                      |

The search ellipsoid orientation was aligned with the trend of each domain or sub-domain which was established according to the variation of the domain trend. The resulting Au grade blocks are presented on the block model cross-sections and plans in Appendix 5.

## RESOURCE CLASSIFICATION

In P&E's opinion, the drilling, assaying, and exploration work supporting this resource estimate are sufficient to indicate reasonable potential for economic extraction and thus qualify it as a Mineral Resource under CIM definition standards. Based on geology, semi-variogram performance and density of the drilling data, the Measured Resource category was justified for blocks interpolated by the pass one (Table 14-54) which was using at least five composites from a minimum of three drill holes within spacing of 15 m on strike, 12 m down dip and 8m on across dip direction. Indicated resources were classified for blocks interpolated with pass 2 which was using at least three composites from a minimum of two drill holes within spacing of 25 m on strike, 20 m down dip and 15 m on across dip direction. Inferred resources were classified by pass 3 on all remaining grade populated blocks. The classifications of some blocks have been manually adjusted to represent the resource classification more reasonably. Classification block cross-sections and plans are attached in Appendix 6.

## RESOURCE ESTIMATE

The resource estimate was derived from applying an Au cut-off grade to the block model and reporting the resulting tonnes and grade for potentially mineable areas. The following calculation demonstrates the rationale supporting the Au cut-off grade that determines open pit and underground potentially economic portions of the constrained mineralization.

### **AU GRADE CUT-OFF CALCULATION**

#### Open Pit Au Cut-Off Grade Calculation C\$

|                          |  |
|--------------------------|--|
| Au Price                 | US\$1,600/oz (Approx. 24 month trailing average price Mar 31/13) |
| \$US/\$CDN Exchange Rate | 1:1  |
| Au Recovery              | 90%  |
| Process Cost (1,500 tpd) | \$18/t milled  |
| General & Administration | \$5/t milled   |

Therefore, the Au cut-off grade for the open pit resource estimate calculated as follows:

$$\begin{aligned} \text{Operating costs per ore tonne} &= (\$18 + \$5) = \$23/\text{t} \\ [(\$23)/[(\$1,600/\text{oz}/31.1035 \times 90\% \text{ Recovery})]] &= 0.35 \text{ g/t, used } 0.5 \text{ g/t} \end{aligned}$$

#### Underground Au Cut-Off Grade Calculation C\$

|                          |   |
|--------------------------|---|
| Au Price                 | US\$1,600/oz (Approx. 24 month trailing avg. price as of Mar 31/13) |
| \$US/\$CDN Exchange Rate | 1:1   |
| Au Recovery              | 90%   |
| Process Cost (1,500 tpd) | \$18/t milled   |
| General & Administration | \$5/t milled  |

Therefore, the Au cut-off grade for the underground resource estimate is calculated as follows:

$$\begin{aligned} \text{Operating costs per ore tonne} &= (\$97 + \$18 + \$5) = \$120/\text{t} \\ [(\$120)/[(\$1,600/\text{oz}/31.1035 \times 90\% \text{ Recovery})]] &= 2.60 \text{ g/t} \end{aligned}$$

### **PIT OPTIMIZATION**

In order for the constrained open pit mineralization in the Davidson Tisdale Deposit resource model to be considered potentially economic, a first pass Whittle 4X pit optimization was carried out to create a pit shell (Appendix 7) utilizing the criteria below:

|  |        |
|--|--------|
| Waste mining cost per tonne                | \$1.85 |
| Mineralized Material mining cost per tonne | \$1.85 |
| Overburden Mining cost per tonne           | \$1.35 |



|   |                       |
|---|-----------------------|
| Process cost per tonne                    | \$18.00               |
| General & Administration cost per tonne   | \$5.00                |
| Process production rate (tonnes per year) | 525,000               |
| Pit slopes (overall wall angle)           | 45°                   |
| Mineralized Rock Bulk Density             | 2.87 t/m <sup>3</sup> |
| Waste Rock Bulk Density                   | 2.90 t/m <sup>3</sup> |
| Overburden Density                        | 1.80 t/m <sup>3</sup> |

## MINERAL RESOURCE ESTIMATE

The resulting resource estimate for the Davidson Tisdale Project is summarized in the Table 14-55.

**TABLE 14-55 MINERAL RESOURCE ESTIMATE FOR DAVIDSON TISDALE**  
**Lexam VG Gold Inc. – Davidson Tisdale Property**

|              | Cut-Off Grade<br>(Au g/t) | Classification   | Tonnes         | Grade<br>(Au g/t) | Contained Metal<br>(oz Au) | 68.5% Attributable<br>oz to Lexam |
|--------------|---------------------------|------------------|----------------|-------------------|----------------------------|-----------------------------------|
| In-Pit       | 0.5                       | Measured         | 452,000        | 2.44              | 35,500                     | 24,300                            |
|              | 0.5                       | Indicated        | 173,000        | 2.43              | 13,500                     | 9,300                             |
|              | <b>0.5</b>                | <b>M+I Total</b> | <b>625,000</b> | <b>2.44</b>       | <b>49,000</b>              | <b>33,600</b>                     |
| UG           | 2.6                       | Measured         | 18,000         | 6.64              | 3,800                      | 2,600                             |
|              | 2.6                       | Indicated        | 41,000         | 4.91              | 6,500                      | 4,400                             |
|              | <b>2.6</b>                | <b>M+I Total</b> | <b>59,000</b>  | <b>5.43</b>       | <b>10,300</b>              | <b>7,000</b>                      |
|              | 2.6                       | Inferred         | 71,000         | 4.20              | 9,600                      | 6,600                             |
| <b>Total</b> | <b>0.5+2.6</b>            | <b>Measured</b>  | <b>470,000</b> | <b>2.60</b>       | <b>39,300</b>              | <b>26,900</b>                     |
|              | <b>0.5+2.6</b>            | <b>Indicated</b> | <b>214,000</b> | <b>2.90</b>       | <b>20,000</b>              | <b>13,700</b>                     |
|              | <b>0.5+2.6</b>            | <b>M+I Total</b> | <b>684,000</b> | <b>2.70</b>       | <b>59,300</b>              | <b>40,600</b>                     |
|              | <b>2.6</b>                | <b>Inferred</b>  | <b>71,000</b>  | <b>4.20</b>       | <b>9,600</b>               | <b>6,600</b>                      |

Notes:

1. Mineral Resources which are not Mineral Reserves do not have demonstrated economic viability. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.
2. The quantity and grade of reported Inferred resources in this estimation are uncertain in nature and there has been insufficient exploration to define these Inferred Resources as an Indicated or Measured mineral resource and it is uncertain if further exploration will result in upgrading them to an Indicated or Measured Mineral Resource category.
3. The mineral resources in this report were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines prepared by the CIM Standing Committee on Reserve Definitions and adopted by the CIM Council.
4. The historical mined tonnage was not depleted as the mined tonnage was insignificant.
5. The Davidson Tisdale project is a joint venture between Lexam as operator (68.5%) and SGX (31.5%). The contained Au oz reflects the 68.5% of the resource attributable to Lexam.

The Au cut-off sensitivities to the resource estimate are demonstrated in Table 14-56 and Table 14-57.

**TABLE 14-56 IN-PIT AU CUT-OFF SENSITIVITY TO RESOURCE  
ESTIMATE OF DAVIDSON TISDALE**

**Lexam VG Gold Inc. – Davidson Tisdale Property**

| Category  | Cut-Off Grade<br>(g/t Au) | Tonnes  | Grade<br>(g/t Au) | Contained Metal<br>(oz Au) |
|-----------|---------------------------|---------|-------------------|----------------------------|
| MEASURED  | 1.00                      | 328,445 | 3.09              | 32,609                     |
|           | 0.90                      | 348,626 | 2.96              | 33,222                     |
|           | 0.80                      | 372,502 | 2.83              | 33,872                     |
|           | 0.70                      | 394,463 | 2.71              | 34,408                     |
|           | 0.60                      | 422,907 | 2.57              | 35,001                     |
|           | 0.50                      | 452,147 | 2.44              | 35,520                     |
|           | 0.40                      | 484,114 | 2.31              | 35,980                     |
|           | 0.30                      | 524,347 | 2.16              | 36,432                     |
|           | 0.20                      | 569,030 | 2.01              | 36,794                     |
| INDICATED | 1.00                      | 137,823 | 2.87              | 12,716                     |
|           | 0.90                      | 143,277 | 2.80              | 12,883                     |
|           | 0.80                      | 150,496 | 2.70              | 13,079                     |
|           | 0.70                      | 157,386 | 2.62              | 13,247                     |
|           | 0.60                      | 163,220 | 2.55              | 13,369                     |
|           | 0.50                      | 173,305 | 2.43              | 13,547                     |
|           | 0.40                      | 182,442 | 2.33              | 13,680                     |
|           | 0.30                      | 194,725 | 2.21              | 13,817                     |
|           | 0.20                      | 203,890 | 2.12              | 13,888                     |

**TABLE 14-57 OUT-OF-PIT (UNDERGROUND) AU CUT-OFF SENSITIVITY TO RESOURCE ESTIMATE OF THE DAVIDSON TISDALE**

**Lexam VG Gold Inc. – Davidson Tisdale Property**

| Category  | Cut-off Grade<br>(g/t Au) | Tonnes  | Grade<br>(g/t Au) | Contained Metal<br>(oz Au) |
|-----------|---------------------------|---------|-------------------|----------------------------|
| MEASURED  | 3.0                       | 13,964  | 7.70              | 3,458                      |
|           | 2.6                       | 17,811  | 6.64              | 3,801                      |
|           | 2.0                       | 23,319  | 5.61              | 4,208                      |
|           | 1.5                       | 32,918  | 4.49              | 4,754                      |
|           | 1.0                       | 47,153  | 3.50              | 5,314                      |
| INDICATED | 3.0                       | 33,056  | 5.41              | 5,750                      |
|           | 2.6                       | 40,904  | 4.91              | 6,454                      |
|           | 2.0                       | 66,704  | 3.91              | 8,381                      |
|           | 1.5                       | 85,907  | 3.43              | 9,463                      |
|           | 1.0                       | 132,817 | 2.64              | 11,290                     |
| INFERRED  | 3.0                       | 49,212  | 4.83              | 7,636                      |
|           | 2.6                       | 71,135  | 4.20              | 9,607                      |
|           | 2.0                       | 100,058 | 3.67              | 11,800                     |
|           | 1.5                       | 122,433 | 3.30              | 13,006                     |
|           | 1.0                       | 198,347 | 2.50              | 15,963                     |

## CONFIRMATION OF ESTIMATE

The block model was validated using a number of industry standard methods including visual and statistical methods.

These methods included visual examination of composite and block grades on plans and sections on-screen and review of estimation parameters such as:

- Number of composites used for estimation;
- Number of holes used for estimation;
- Distance to the nearest composite;
- Number of interpolation passes used to estimate grade;
- Mean value for composites used.

As a test of the reasonableness of the resource estimates, the block model grade was also interpolated with ID<sup>3</sup> and NN methods. The average interpolated grades for the block model were compared to the mean of composites used for grade interpolation. As shown in Table 14-58 the average grades of block model among the different interpolation methods and mean of composites are similar.

**TABLE 14-58 COMPARISON OF AVERAGE GRADE OF COMPOSITES  
WITH AVERAGE GRADES OF THE TOTAL BLOCK MODEL**

**Lexam VG Gold Inc. – Davidson Tisdale Property**

| <b>Data Type</b> | <b>g/t Au</b> | <b>Interpolation Method</b>               |
|------------------|---------------|---|
| Composites       | 1.50          |   |
| Block Model      | 1.51          | Ordinary Kriging (OK)                     |
| Block Model      | 1.48          | Inverse Distance Cubed (ID <sup>3</sup> ) |
| Block Model      | 1.49          | Nearest Neighbour (NN)                    |

A volumetric comparison was performed with the mineralization block volume versus the geometric calculated volume of the domain solids, as detailed below:

- Block Model Volume = 690,419 m<sup>3</sup>
- Geometric Domain Volume = 691, 486 m<sup>3</sup>
- Difference = 0.15%

Comparison of grade models interpolated with OK, ID<sup>3</sup> and NN was conducted on the global resources as shown in Table 14-59 and Figure 14-46.

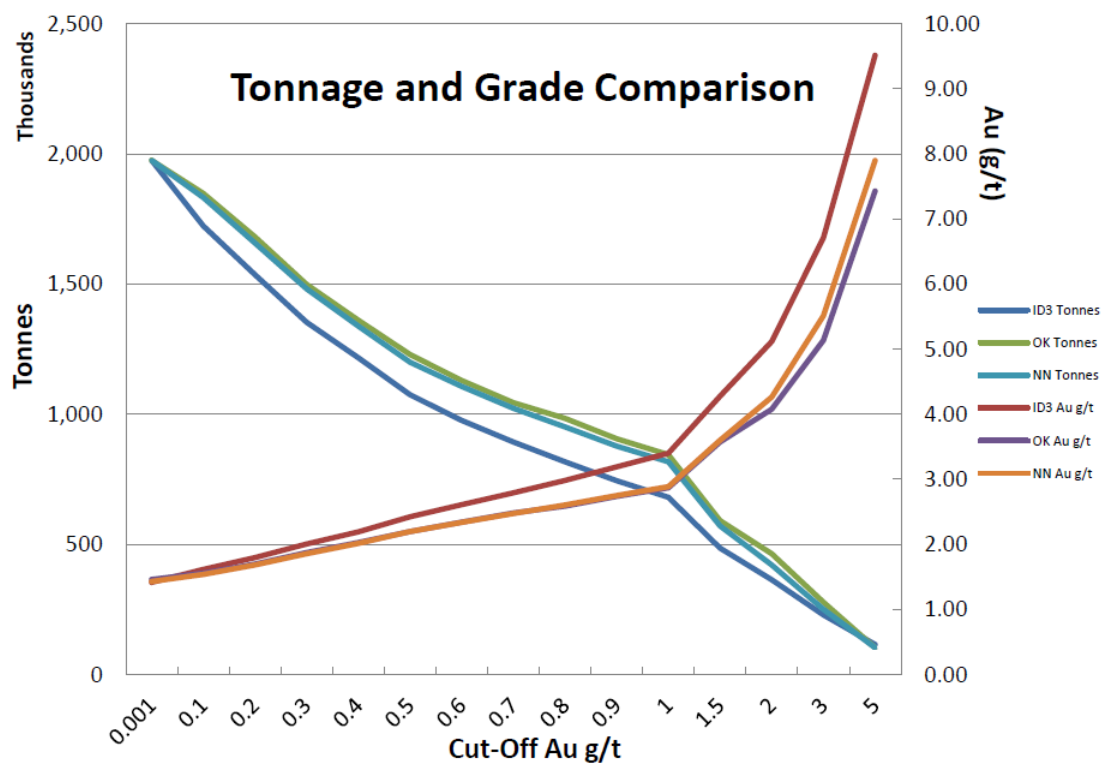
In P&E's opinion, the grade interpolation utilizing Ordinary Kriging is reasonable.

**TABLE 14-59 COMPARISON OF RESOURCE ESTIMATE AT CUT-OFF 1.0 G/T  
AU INTERPOLATED WITH OK, ID<sup>3</sup> AND NN METHOD**

**Lexam VG Gold Inc. – Davidson Tisdale Property**

| <b>Interpolation Method</b> | <b>OK</b> | <b>ID<sup>3</sup></b> | <b>NN</b> |
|-----------------------------|-----------|-----------------------|-----------|
| Average Grade Au g/t        | 1.88      | 2.01                  | 1.86      |
| Tonnes (000s)               | 1,499     | 1,354                 | 1,481     |
| Contained oz of Au (000s)   | 90        | 87                    | 88        |

**FIGURE 14-46 COMPARISON OF RESOURCE ESTIMATE AT AU CUT-OFF GRADE AMONG OK, ID<sup>3</sup> AND NN METHOD**



## **15 MINERAL RESERVE ESTIMATE**

No Mineral Reserves have been estimated for the Project.

## 16 MINING METHODS

### PROJECT OVERVIEW

The base case operating scenario for the Project includes open pit mining of Measured, Indicated, and Inferred Mineral Resources with direct shipping of mineralization to a toll processing facility for recovery of gold.

The mine design consists of five open pits in two areas. Four of the pits (Buffalo Ankerite South, Buffalo Ankerite North, Paymaster, and Fuller) are located in the “main cluster” approximately five kilometres southeast of Timmins city centre. The main cluster can be defined by a radius of approximately one kilometre. The fifth open pit (Davidson Tisdale) is located approximately nine kilometres to the east-northeast of Timmins city centre (approximately eight kilometres north-northeast of the main cluster).

The terrain is generally flat, traversed by winding watercourses and dotted with tailings stacks, waste rock dumps, and open pits and subsidence zones from past and current mining operations. There are numerous residences located amongst the main cluster and it is bisected by Gold Mine Road (formerly the Back Road).

Figure 16-1 presents a plan view of the main cluster site layout prior to backfilling and closure.

Open pit development is characterized by relatively high stripping ratios as the primary production target is narrow steeply dipping veins. Maintaining mining selectivity to control dilution and extraction will be paramount, as well as keeping operating conditions safe as the open pits will encounter stope voids from historic underground mining operations. Initial operations will require external waste rock disposal areas, after which, pits may be backfilled.

A mining contractor is proposed to mine a portion of the waste material to reduce capital costs. Owner mining is proposed to mine mineralized production material and neighbouring waste.



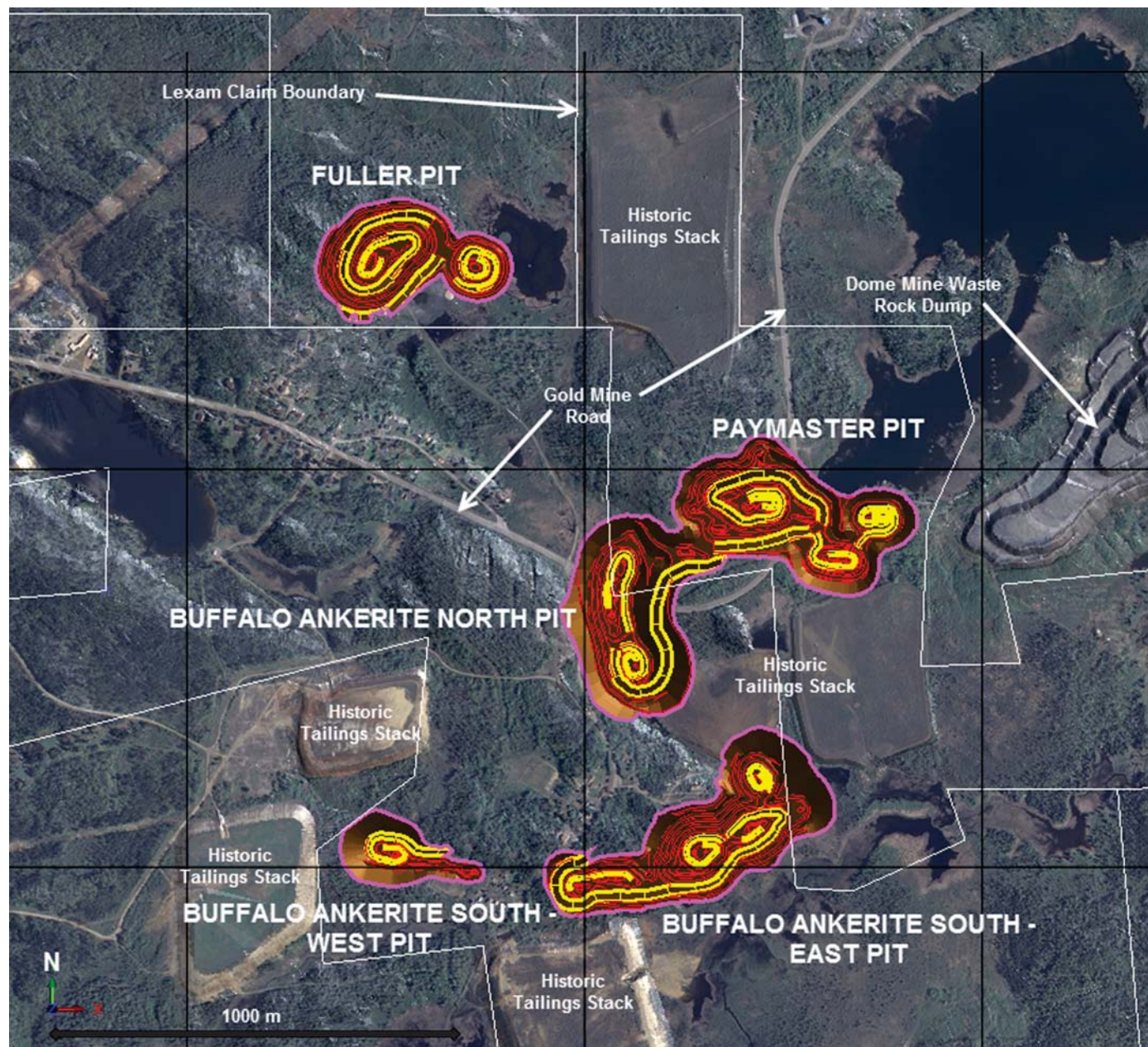


Figure 16-1

**Lexam VG Gold Inc.**  
**Buffalo Ankerite, Fuller, Paymaster,**  
**and Davidson Tisdale Properties**  
 Porcupine Mining Division  
 North-Eastern Ontario, Canada  
**General Layout - Main Cluster**

Open pit production totals for the Life-of-Mine (LoM) are:

- 47.0 Mt total moved consisting of:
  - 4.4 Mt of mineralization,
  - 42.5 Mt of waste material,
  - Waste stripping ratio of 9.6:1 (waste:mineralization).
- Mineralized production, which has been factored for mining dilution and extraction, consists of:
  - 76,000 t of Measured Mineral Resources at 2.64 g/t Au for 6,500 oz of contained gold.
  - 3,348,000 t of Indicated Mineral Resources at 2.28 g/t Au for 245,500 oz of contained gold.
  - 1,020,000 t of Inferred Mineral Resources at 1.99 g/t Au for 65,100 oz of contained gold.
- Approximately 2% of contained gold is classified as Measured, 77% of contained gold is classified as Indicated, and 21% of contained gold is classified as Inferred.
- Steady state production of 0.7 Mtpa (approximately 2,000 tpd) of mineralization.
- Approximately 6.5 years of Run-of-Mine (RoM) production.

The Mineral Resource estimates include significant tonnages not included in the PEA production schedule because their technical and economic viability are not considered reasonable at the PEA's gold price, consideration for only open pit mining, and with capital costs at a level Lexam considers reasonable to finance in the current market.

The proposed mining sequence is: Buffalo Ankerite South, Davidson Tisdale, Buffalo Ankerite North, Paymaster, and Fuller.

At Buffalo Ankerite South, two open pits are developed with the highest grade mineralization of the main cluster. They contain approximately 37% of the gold ounces in the LoM production schedule (just under two years production annualized). There are two Net Profit Interest (NPI) royalties covering the majority of the Buffalo Ankerite South Property. These are at 20% and 10% of open pit production and both payable to The Summit Organization Inc. (Summit). In addition, the eastern portion of the property is operated as a joint venture with Goldcorp Inc. (Goldcorp), where Lexam holds a 60% share. The majority of gold mineralization falls within the 20% NPI boundary (approximately 90% of contained ounces within the open pit design). Remaining gold mineralization is split equally between the 10% NPI boundary on the west side and the 60% joint venture ground on the east side. In order for open pit mining to take place at Buffalo Ankerite South, a re-settlement program is

required for numerous residences within and adjacent to the mining area. This is accounted for in the capital cost estimate.

The Davidson Tisdale open pit has some of the highest grade mineralization, however, it has the least amount of tonnes and represents approximately 3% of contained ounces in the LoM production schedule (two months production annualized). There are no royalties on the Davidson Tisdale Property, however, it is operated as a joint venture with SGX Resources (SGX), where Lexam holds a 68.5% share.

Open pit grades drop as production moves to the Buffalo Ankerite North pit. It contains approximately 12% of gold ounces in the LoM production schedule (just under one year of production annualized). Production is divided between the Summit 10% NPI and the Goldcorp 60% joint venture. Approximately 60% of contained ounces are within the 10% NPI boundary, with the remaining 40% within the joint venture boundary. Prior to mining of Buffalo Ankerite North, Gold Mine Road requires re-alignment as it currently bi-sects both the Buffalo Ankerite North and Paymaster pits. Along with the road re-alignment, a small number of residences are considered for in the re-settlement program.

Open pit grades drop again as production moves into the Paymaster pit, however, mineralization tonnage increases. The upper benches of the west end of the Paymaster pit join with the upper benches of the north end of the Buffalo Ankerite North pit, resulting in a single overall pit outline. Considering production within the Paymaster portion of the pit, it contains approximately 26% of gold ounces in the LoM production schedule (two years production annualized). Production at Paymaster is exclusively within the Goldcorp 60% joint venture boundary. The eastern half of the Paymaster open pit footprint lies within a shallow pond; a short embankment will be required to the north prior to start of open pit development to control water inflow.

The final open pit production area is Fuller, where average grades are slightly below those seen in the Paymaster pit. It contains approximately 22% of gold ounces in the LoM production schedule (just under two years production annualized). Approximately 20% of contained ounces in the Fuller pit are within the Summit 10% NPI boundary, with the remaining ounces 100% attributable to Lexam. At the eastern end of the Fuller pit footprint



lies a shallow tailings pond. This water will be re-located to the surface water management system for storage or treated for discharge as required.

Rigid frame dump trucks with capacities of 35 t will be loaded with mineralized production at the dig face, and will transport the mineralization on a combination of private and public roads, as required, to the selected toll processing facility. Stockpiles will be maintained both on the property and at the toll processing facility, with the priority being at the toll facility to minimize re-handle requirements.

## MINERAL RESOURCE MODIFYING FACTORS

A Mineral Resource model for each property was built, as described in Section 14. For the purpose of the PEA, the Mineral Resource models have been factored for mining dilution and mining extraction taking into consideration open pit mining methods and equipment, geometry of mineralization, block model architecture, and a 2,000 tpd mineralized production rate. Each model was evaluated along with its associated wireframes, to develop reasonable mining factors to apply on a global basis. Mining factors applied in the PEA are presented in Table 16-1.

**TABLE 16-1 MINING FACTORS**  
**Lexam VG Gold Inc. – Lexam VG Project**

| <b>Deposit</b>         | <b>Mining Dilution</b> | <b>Dilution Grade (g/t Au)</b> | <b>Mining Extraction</b> |
|------------------------|------------------------|--------------------------------|--------------------------|
| Buffalo Ankerite South | 27.5%                  | 0.25                           | 95%                      |
| Buffalo Ankerite North | 17.5%                  | 0.25                           | 95%                      |
| Paymaster              | 12.5%                  | 0.25                           | 95%                      |
| Fuller                 | 7.5%                   | 0.25                           | 95%                      |
| Davidson Tisdale       | 22.5%                  | 0.25                           | 95%                      |

The primary factor influencing mining dilution was average thickness of the mineralized zone. In the case of Fuller, a significant portion of dilution is built into the block model as whole blocks were used, whereas for the other deposits, partial percent models were used, which minimize built-in dilution.

A grade of 0.25 g/t Au was estimated for the dilution material based on the average grade of 308 samples located within a one metre halo surrounding wireframes. Individual sample

grades were capped at 0.5 g/t Au. This cap was selected based on a proposed cut-off grade from an initial scoping review for the Project at US\$1,400/oz gold.

In general, mineralized zones have good continuity along strike, in the tens of metres and more (continuity is likely to be interrupted by mining voids). Grades in the mineralized zones are typically more than double the estimated cut-off grade. Therefore a high mining extraction factor is assumed.

RPA recommends a higher resolution (bench scale) review of mining factors for the next level of study, which accounts for mining factors specifically at the hangingwall and footwall contacts, versus on a global basis with assumed typical values.

All the resource models were imported into Dassault Systèmes Geovia Inc.'s Surpac software (Surpac), where the Mineral Resource gold grade was modified as per Table 16-1. The modified gold grade was subsequently used for mine design work and reporting the mineralized production schedule.

Mining voids were wireframed for the Mineral Resource models. For the PEA, RPA has assumed the voids contain barren waste rock. RPA is aware that not all of the mining voids have been backfilled. However, there will be additional costs when mining around voids and this cost is assumed offset by the cost of mining the void as if it were competent waste rock. RPA recommends additional work to identify mining void dimensions and status (i.e. if back filled to what level and with what kind of back fill) along with appropriate mining factors, costs, and safety issues. Priority should be Buffalo Ankerite South as this is the initial production target.

The Buffalo Ankerite North and Paymaster Mineral Resource models have been merged into a single model for open pit optimization because the north end of Buffalo Ankerite North bends 90° to the east into the Paymaster pit resulting in a continuous alignment of mineralized zones. Historically, the two properties have been held by different companies, thus, they were modeled in two separate resource models.

## OPEN PIT OPTIMIZATION

Open pit optimization has been completed in Dassault Systèmes Geovia Inc.'s Whittle 4.5 software (Whittle) using the Lersch-Grossman algorithm. As open pit optimization is an iterative process, inputs used for the open pit optimization may not be identical to those in the cash flow model. Table 16-2 presents the Whittle input parameters for the Project's main cluster, followed by a description of the input parameters. Measured, Indicated, and Inferred Mineral Resources contribute as revenue sources to the open pit optimization for the PEA.

**TABLE 16-2 WHITTLE INPUT PARAMETERS**  
**Lexam VG Gold Inc. – Lexam VG Project**

| Parameter                           | Units              | Value                  |
|-------------------------------------|--------------------|------------------------|
| Operating Assumptions:              |                    |                        |
| Process Rate                        | tpd                | 2,000                  |
| Annual Process Rate                 | Mtpa               | 0.7                    |
| Stripping Ratio                     | Waste : Production | 8:1                    |
| Discount Rate                       | %                  | 10.0                   |
| Revenue Factors:                    |                    |                        |
| Exchange Rate                       | C\$:US\$           | 0.95                   |
| Sale Price, Au                      | US\$/oz            | 1,200                  |
| Pay Factor, Au                      | %                  | 99.0                   |
| NSR Royalty                         | %                  | 0.0                    |
| Selling Costs:                      |                    |                        |
| Au                                  | US\$/oz            | 5.00                   |
| Pit Slope Angles (Overall Maximum): |                    |                        |
| Overburden                          | degrees            | 20                     |
| Fresh Rock                          | degrees            | 47                     |
| Mining Parameters:                  |                    |                        |
| Reference Mining Cost               | C\$/t moved        | 2.05                   |
| Production Incremental Cost         | C\$/t processed    | 9.65                   |
| Waste Haul Incremental              | C\$/t moved        | 0.00 to 0.30           |
| Mining Cost Depth Incremental       | C\$/t moved        | 0.035 per 6 m vertical |
| Mining Extraction                   | %                  | see Table 16-1         |
| Mining Dilution                     | %                  | see Table 16-1         |
| Dilution Grade                      | g/t Au             | see Table 16-1         |
| Processing Parameters:              |                    |                        |
| Recovery, Au                        | %                  | 88 to 93               |
| Process Cost                        | C\$/t processed    | 16.75                  |
| Haulage Cost, for Processing        | C\$/t processed    | 0.60 to 2.15           |
| G&A Cost                            | C\$/t processed    | 7.15                   |

**OPERATING ASSUMPTIONS**

An open pit mining operation with toll processing of mineralized material is assumed. A mining contractor will be used for mining waste blocks near surface while Lexam will complete mining of all mineralized material and surrounding waste rock.

A mineralized material production rate of 2,000 tpd (0.7 Mtpa) at an open pit mining strip ratio of 8:1 (waste : production) was assumed for generating the unit cost assumptions.

A discount rate of 10% was used in the analysis of Whittle output for open pit shell selection.

**REVENUE FACTORS**

An exchange rate of 0.95 C\$:US\$ was used for converting the US\$ denominated gold sale price and selling cost to C\$. All other costs were estimated in C\$.

The gold sale price of US\$1,200/oz was selected for the open pit optimization based on gold price performance in the past year. RPA notes this is lower than the current three year trailing average of US\$1,542/oz and closing price of US\$1,292/oz for the month end March 2014. Gold is the only element of economic interest recognized in the model. Metallurgical testwork results indicate a non-significant quantity of silver is expected to be recovered from the mineralization.

Pay factor accounts for deductions by the refiner and toll processor.

There are no Net Smelter Return (NSR) royalties on any of the properties. NPI agreements are accounted for in the pro-forma cash flow model.

**SELLING COSTS**

Selling costs cover the cost of transporting and refining the final product to the point of sale, along with insurance and marketing costs, and other costs incurred directly related to the metal sale.

**PIT SLOPE ANGLES**

Overall pit slope angles, which allow for pit design details such as crests, toes, and haulage ramps, were applied in the open pit optimization and are based on comparable projects and operations in the region.



The resultant pit shells are relatively shallow at less than 150 m total depth and they obey the overall pit slope angles within a margin of error of less than a few degrees.

### **MINING PARAMETERS**

Mining costs for Whittle were based on comparably sized mining operations, RPA's experience, and consideration for using a mining contractor. A reference mining cost was charged to all material moved along with various incremental costs dependent on type of material being moved and its starting and finishing destination. Mining dilution and extraction factors were applied as per Table 16-1.

At Davidson Tisdale, a mining contractor was assumed for all material movement at a single fixed rate of C\$4.00/t moved for hard rock.

### **PROCESSING PARAMETERS**

The basis for processing recoveries and operating costs are discussed in Sections 13, 17, and 21. Gold recovery by deposit used in the pit optimization and final values in the cash flow are presented in Table 16-3. The process operating cost considers for the direct cost of processing plus a profit margin for the toll processor plus additional handling costs.

**TABLE 16-3 PROCESS RECOVERIES**  
**Lexam VG Gold Inc. – Lexam VG Project**

| <b>Deposit</b>         | <b>Whittle<br/>Gold Recovery</b> | <b>Cash Flow<br/>Gold Recovery</b> |
|------------------------|----------------------------------|------------------------------------|
| Buffalo Ankerite South | 93.0%                            | 93.7%                              |
| Buffalo Ankerite North | 92.0%                            | 94.2%                              |
| Paymaster              | 92.0%                            | 91.8%                              |
| Fuller                 | 88.0%                            | 89.0%                              |
| Davidson Tisdale       | 92.0%                            | 92.0%                              |

Site general and administrative (G&A) costs are estimated at approximately C\$5 million per annum. This includes all management, administration, and site services personnel, support contracts not directly related to mining or processing, and operating programs such as health and safety, environment, and independent reviews.

### **OPEN PIT OPTIMIZATION RESULTS**

A metal price sensitivity was run in Whittle producing a range of pit shells based on increments of 2.5% change in metal price from the base case. A change in metal price is

accomplished by applying a Revenue Factor, where a Revenue Factor equal to one ( $RF=1.0$ ) represents the base case metal price. Results of the metal price sensitivity are presented in a Whittle pit-by-pit graph highlighting total tonnes of mineralization and waste for each pit shell in stacked columns (right vertical axis), along with the relative value of each pit shell as a line (left vertical axis). The relative value is based on the preliminary Whittle input parameters presented in Table 16-2, and is presented three ways:

- Worst case relative value - the value for mining the current pit shell in its entirety from top to bottom. This is the simplest and most practical method for mining the selected final pit shell, however, this method results in the lowest financial return.
- Best case relative value - the value for mining to the current pit shell starting with the first pit shell followed by mining each subsequent pit shell from top to bottom. This represents the least practical method for mining and typically involves mining narrow pit pushbacks and potentially exposing extreme vertical relief in the pit wall between pushbacks. This method results in the maximum financial return.
- Specified case relative value - the value for mining to the current pit shell via a sequence of specified pit shells. This represents a more practical method for mining, via a series of nested pit shells that are specified based on pushback distance to the next shell and constraints on vertical exposure between pushbacks. The specified case method results in a financial return between the worst case and best case values.

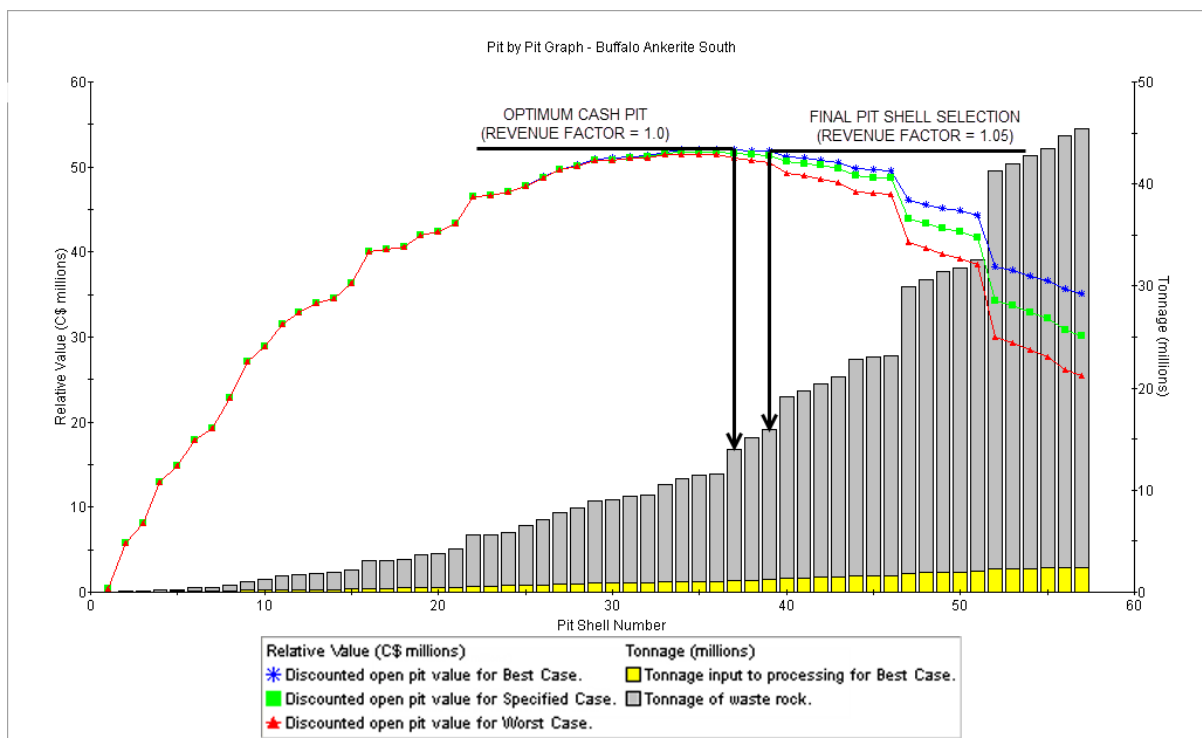
The relative value assumes mining starts at the same time in all models. The actual mining sequence was determined based on preliminary analysis of economics including capital considerations, NPI's, ownership level, and backfilling opportunities.

In addition to maximizing project Net Present Value (NPV) during final pit shell selection, consideration was made for increasing mineralized production and mine life. With this in mind, pit shells greater than the optimum pit shell at US\$1,200/oz gold were considered for use as a guide for final pit design work.

#### **BUFFALO ANKERITE SOUTH**

Figure 16-2 presents the pit-by-pit graph of metal price sensitivity for Buffalo Ankerite South mineralization.

**FIGURE 16-2 BUFFALO ANKERITE SOUTH WHITTLE PIT-BY-PIT GRAPH**



Pit Shell 37 is the optimum cash pit result ( $RF=1.0$ ); it represents the pit shell with the greatest total cash flow with no discount rate applied. RPA notes there is negligible value difference between the best and worst case pits leading up to Pit Shell 37. This is a function of the short production period (less than two years). The difference becomes more notable beyond the optimum cash pit as the production period lengthens and stripping ratios increase. This observation is common amongst all the optimizations.

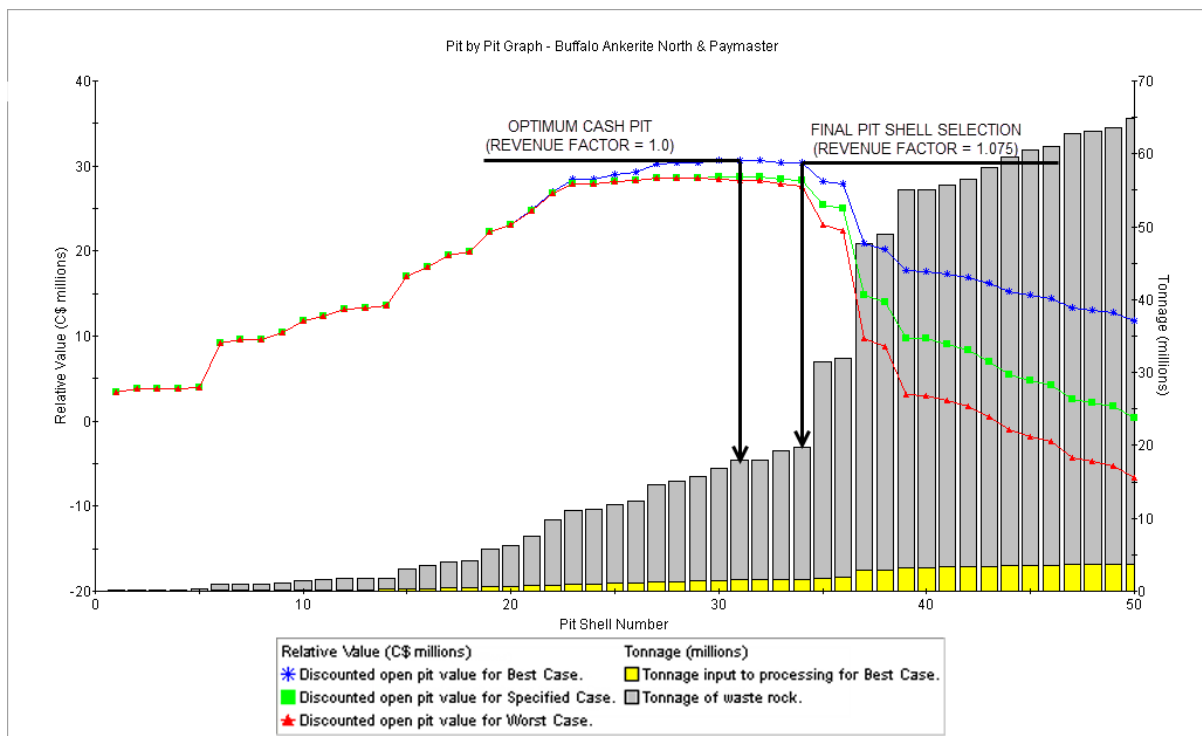
Pit Shell 39 was selected as a guide for final pit design; it corresponds to a gold price of US\$1,260/oz ( $RF=1.05$ ) and represents an increase of approximately 6% in gold ounces over the optimum cash pit with less than a 1% decrease in relative value. RPA notes a significant step-up in stripping ratio for the next pit shell (Pit Shell 40) and a greater decrease in relative value as a result.

No pit phases are identified for Buffalo Ankerite South due to limited operating space between pit shells and the short production period. However, Buffalo Ankerite South develops as two separate pits; the East pit and the West pit.

### BUFFALO ANKERITE NORTH AND PAYMASTER

Figure 16-3 presents the pit-by-pit graph of metal price sensitivity for Buffalo Ankerite North and Paymaster mineralization.

**FIGURE 16-3 BUFFALO ANKERITE NORTH AND PAYMASTER WHITTLE PIT-BY-PIT GRAPH**



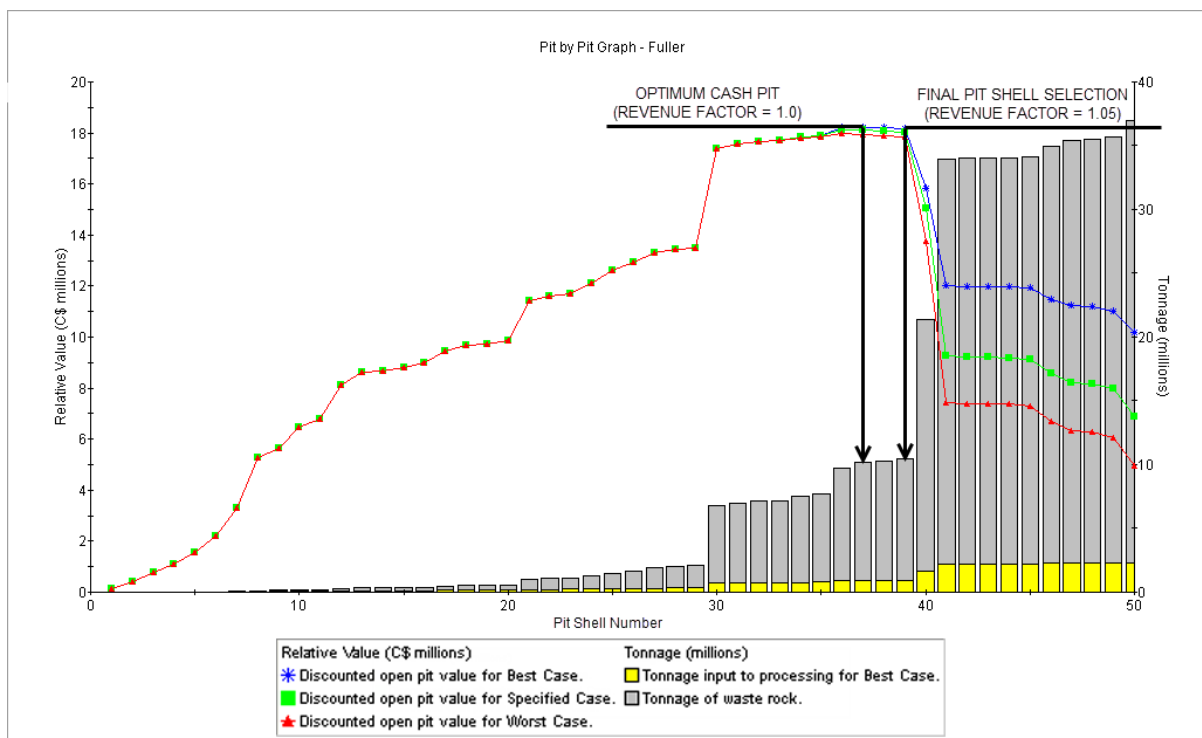
Pit Shell 31 is the optimum cash pit result ( $RF=1.0$ ). Pit Shell 34 was selected as a guide for final pit design; it corresponds to a gold price of US\$1,290/oz ( $RF=1.075$ ) and represents an increase of approximately 7% in gold ounces over the optimum cash pit with less than a 2% decrease in relative value. RPA notes a significant step-up in stripping ratio for the next pit shell (Pit Shell 35) and a greater decrease in relative value as a result.

No pit phases are identified due to limited operating space between pit shells and the short production period. However, Buffalo Ankerite North is mined first followed by Paymaster (waste stripping of Paymaster will begin as stripping ratios at Buffalo Ankerite North decrease, balancing overall material movements).

### FULLER

Figure 16-4 presents the pit-by-pit graph of metal price sensitivity for Fuller mineralization.

**FIGURE 16-4 FULLER WHITTLE PIT-BY-PIT GRAPH**



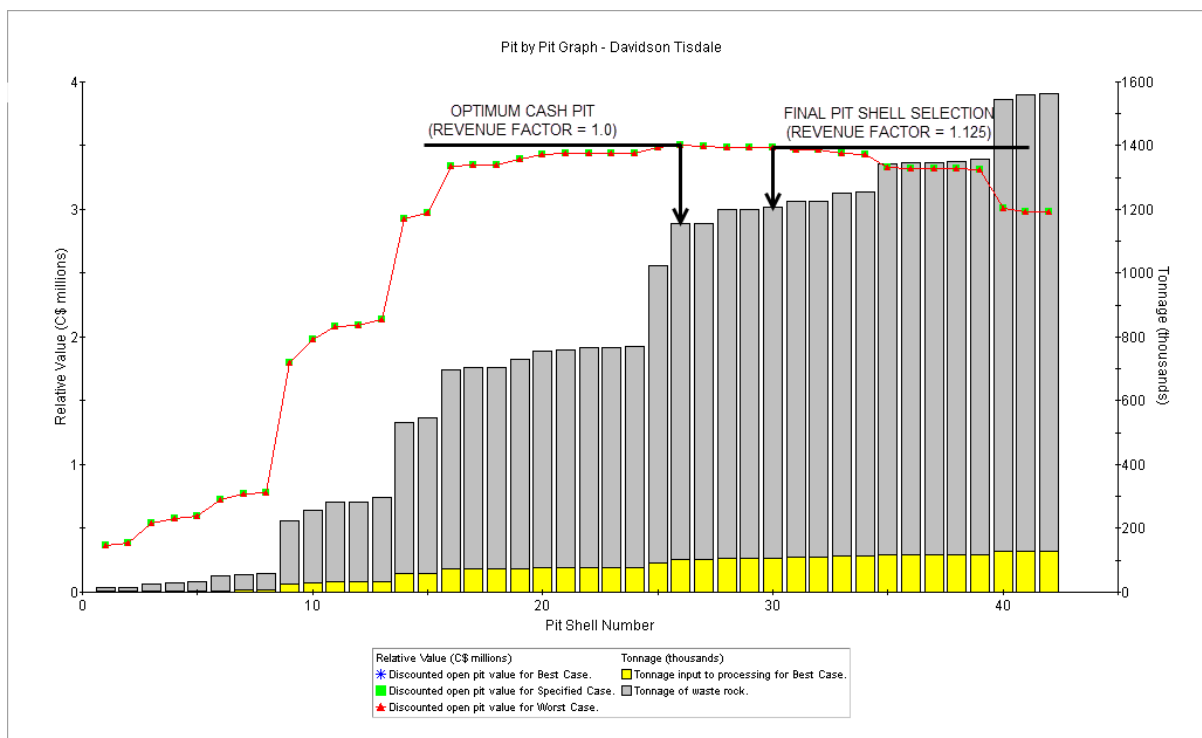
Pit Shell 37 is the optimum cash pit result ( $RF=1.0$ ). Pit Shell 39 was selected as a guide for final pit design; it corresponds to a gold price of US\$1,260/oz ( $RF=1.05$ ) and represents an increase of approximately 2% in gold ounces over the optimum cash pit with a negligible decrease in relative value. RPA notes a significant step-up in stripping ratio for the next two pit shells (Pit Shell 40 and 41) and a significant decrease in relative value as a result.

No pit phases are identified due to limited operating space between pit shells and the short production period.

#### **DAVIDSON TISDALE**

Figure 16-5 presents the pit-by-pit graph of metal price sensitivity for Davidson Tisdale mineralization.

**FIGURE 16-5 DAVIDSON TISDALE WHITTLE PIT-BY-PIT GRAPH**



Pit Shell 26 is the optimum cash pit result ( $RF=1.0$ ). Pit Shell 30 was selected as a guide for final pit design; it corresponds to a gold price of US\$1,350/oz ( $RF=1.125$ ) and represents an increase of approximately 3% in gold ounces over the optimum cash pit with a negligible decrease in relative value.

No pit phases are identified due to limited operating space between pit shells and the short production period.

## OPEN PIT DESIGN

Figure 16-1 presents the general layout of the main cluster pit. All final design pits were completed using selected pit shell results from Whittle as a guide, along with the following detailed bench geometry in hard rock:

- Bench height – approximately 6 m (20 ft).
- Bench face angle –  $75^\circ$ .
- Bench catch berm width – approximately 8.5 m (28 ft).
- Triple benches between catch berms.
- Haulage road design for Lexam 35 t payload rigid frame truck:

- Two-way traffic (includes one shoulder berm) – approximately 14 m (45 ft).
  - One-way traffic (includes one shoulder berm) – approximately 11 m (35 ft).
  - Maximum continuous gradient – 10%.
- Haulage road design for mining contractor trucks (maximum 90 t payload rigid frame truck):
  - Two-way traffic (includes one shoulder berm) – approximately 24 m (80 ft).
  - One-way traffic (includes one shoulder berm) – approximately 18 m (60 ft).
  - Maximum continuous gradient – 10%.

For overburden, overall slopes of 20° were modeled with a single transition bench between overburden and rock at 45°.

Based on the bench design criteria, occasional steep inter-ramp slope angles developed during the pit design process, albeit with limited vertical exposure. Mining voids were considered during the pit design process, with final pit walls pushed back to the stope footwall whenever a final pit wall fell within a void, or within a few metres of the void hangingwall.

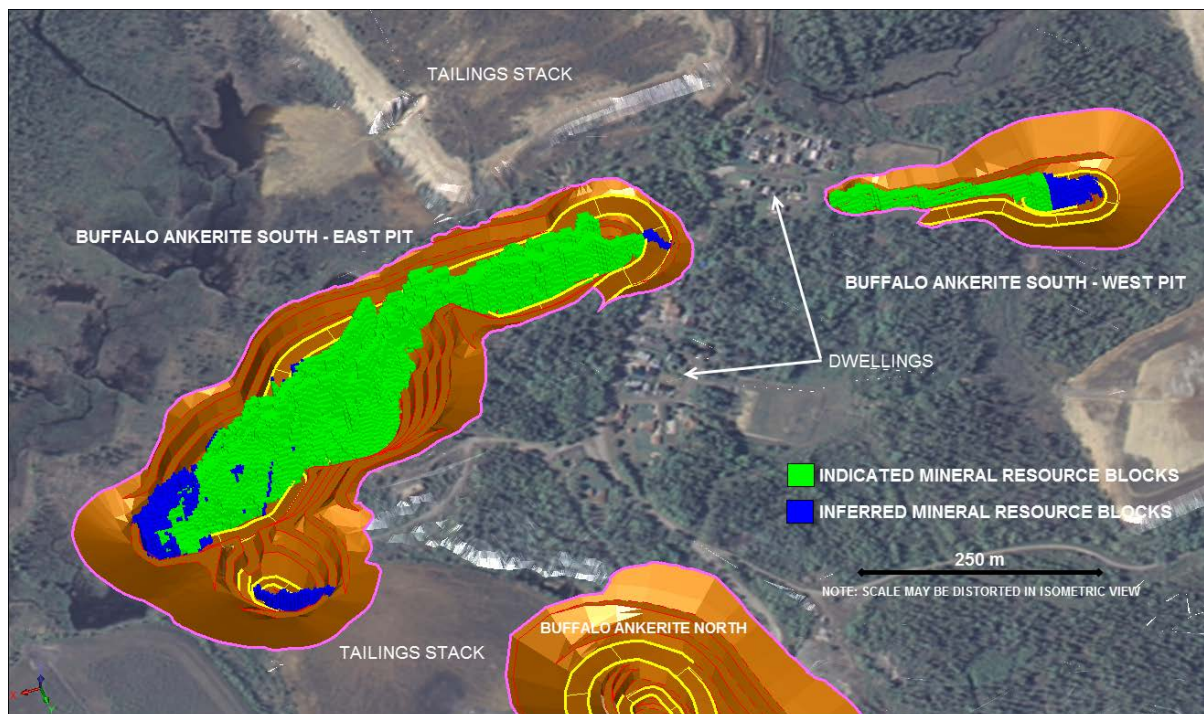
#### ***BUFFALO ANKERITE SOUTH***

Two final design pits are developed over an east-west strike length of approximately 1,300 m. The maximum width and depth of the pits is approximately 320 m and 130 m respectively. The surface footprint for the Buffalo Ankerite South pits is approximately 21 ha. The divide between the East and West pit is approximately 150 m. This divide occurs where residences are located on surface and it represents a zone of increased geologic potential. RPA recommends a review of geologic potential in the divide to determine if additional drilling is warranted.

Figure 16-6 presents an isometric view of Buffalo Ankerite South pits along with classified mineralization at a 0.65 g/t Au cut-off grade.



**FIGURE 16-6 ISOMETRIC VIEW OF BUFFALO ANKERITE SOUTH PITS  
LOOKING SOUTHWEST**



At the east end of the East pit, an additional pit bottom is developed to the north on a zone of Inferred Mineral Resource blocks. This mineralization strikes at 90 degrees to the main trend of Buffalo Ankerite South mineralization and points towards the south end of the Buffalo Ankerite North pit, which is only 150 m to the north. The surface in this area is covered by a historic tailings stack. In RPA's opinion, there is increased geologic potential for identification of mineralization in this gap, which may not be as densely drilled as neighbouring areas due to the tailings stack on surface. RPA recommends additional exploration drilling for new mineralization and drilling to upgrade Inferred resources.

Table 16-4 presents the RoM mineralized production totals for the Buffalo Ankerite South pits, factored for mining dilution and extraction.

**TABLE 16-4 BUFFALO ANKERITE SOUTH ROM PRODUCTION**  
**Lexam VG Gold Inc. – Lexam VG Project**

| <b>RoM Material Type</b>             | <b>k tonnes</b> | <b>g/t Au</b> | <b>k oz Au</b> |
|--------------------------------------|-----------------|---------------|----------------|
| RoM Mineralized Production:          |                 |               |                |
| Measured                             | -               | -             | -              |
| Indicated                            | 1,140           | 2.87          | 105            |
| Inferred                             | 107             | 3.13          | 11             |
| Waste Material:                      |                 |               |                |
| Overburden                           | 2,209           |               |                |
| Waste Rock                           | 12,372          |               |                |
| Stripping Ratio (Waste : Production) | 11.7            |               |                |

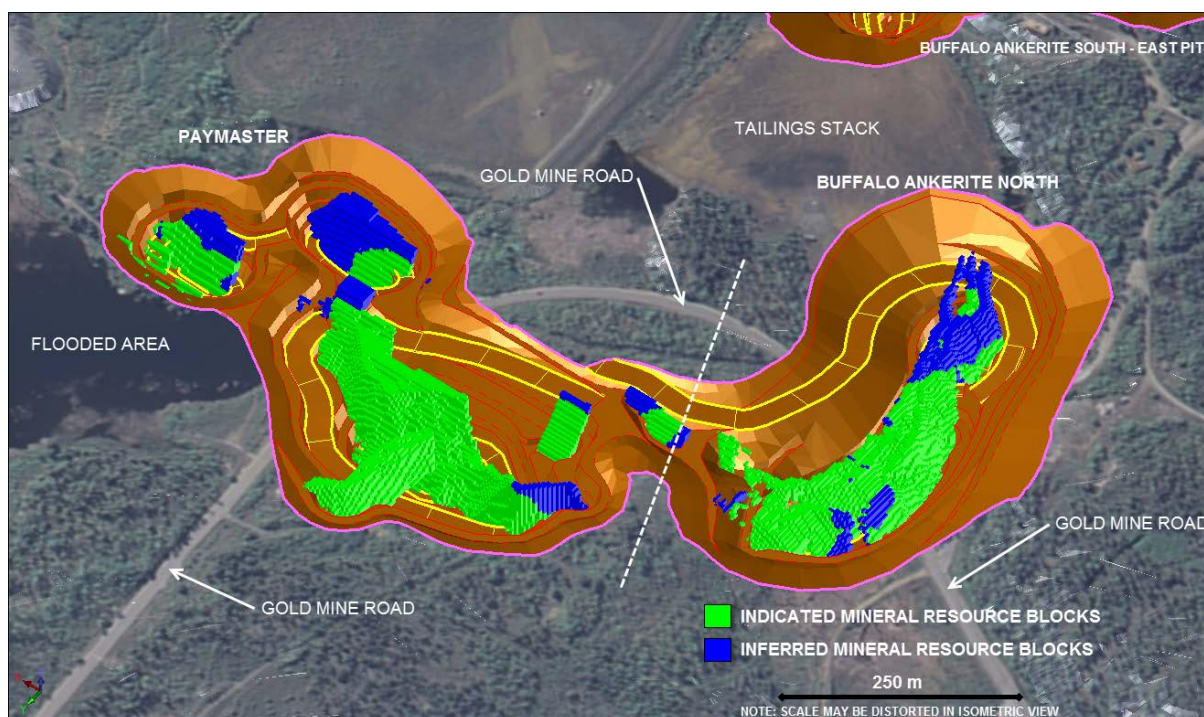
RPA notes approximately 91% of the RoM production is classified as Indicated Mineral Resources.

#### ***BUFFALO ANKERITE NORTH***

The Buffalo Ankerite North final design pit is developed over a north-south strike length of approximately 550 m. The northeast end of the pit's upper benches connect with the west end of the Paymaster pit. The typical width and maximum depth of the pit is approximately 300 m and 125 m respectively. The surface footprint is approximately 14 ha.

Figure 16-7 presents an isometric view of the Buffalo Ankerite North and Paymaster pit along with classified mineralization at a 0.65 g/t Au cut-off grade.

**FIGURE 16-7 ISOMETRIC VIEW OF BUFFALO ANKERITE NORTH AND PAYMASTER PIT LOOKING SOUTHEAST**



The Buffalo Ankerite North and Paymaster pit is bisected by Gold Mine Road. Capital costs for road re-alignment are charged in Year -1. The nearest residence not already considered for by Buffalo Ankerite South development is approximately 200 m to the west northwest of the pit rim.

Table 16-5 presents the RoM mineralized production totals for the Buffalo Ankerite North pit, factored for mining dilution and extraction.

**TABLE 16-5 BUFFALO ANKERITE NORTH ROM PRODUCTION**  
**Lexam VG Gold Inc. – Lexam VG Project**

| <b>RoM Material Type</b>             | <b>k tonnes</b> | <b>g/t Au</b> | <b>k oz Au</b> |
|--------------------------------------|-----------------|---------------|----------------|
| RoM Mineralized Production:          |                 |               |                |
| Measured                             | -               | -             | -              |
| Indicated                            | 453             | 2.16          | 32             |
| Inferred                             | 95              | 2.58          | 8              |
| Waste Material:                      |                 |               |                |
| Overburden                           | 2,595           |               |                |
| Waste Rock                           | 4,799           |               |                |
| Stripping Ratio (Waste : Production) | 13.5            |               |                |

RPA notes approximately 83% of the RoM production is classified as Indicated Mineral Resources.

### **PAYMASTER**

The Paymaster final design pit is developed over an east-west strike length of approximately 650 m. The west end of the pit's upper benches connect with the northeast end of the Buffalo Ankerite North pit. The width averages 300 m and the maximum depth is approximately 125 m. The surface footprint is approximately 15 ha.

Figure 16-7 presents an isometric view of the Buffalo Ankerite North and Paymaster pit along with classified mineralization at a 0.65 g/t Au cut-off grade.

The Paymaster and Buffalo Ankerite North pit is bisected by Gold Mine Road. Capital costs for road re-alignment are charged in Year -1. For additional consideration at Paymaster is the flooded area at the northeast end of the pit footprint. An embankment to the northeast of the pit is proposed for surface water management.

Table 16-6 presents the RoM mineralized production totals for the Paymaster pit, factored for mining dilution and extraction.

**TABLE 16-6 PAYMASTER ROM PRODUCTION**  
**Lexam VG Gold Inc. – Lexam VG Project**

| <b>RoM Material Type</b>           | <b>k tonnes</b> | <b>g/t Au</b> | <b>k oz Au</b> |
|------------------------------------|-----------------|---------------|----------------|
| RoM Mineralized Production:        |                 |               |                |
| Measured                           | -               | -             | -              |
| Indicated                          | 1,136           | 1.91          | 70             |
| Inferred                           | 203             | 1.77          | 12             |
| Waste Material:                    |                 |               |                |
| Overburden                         | 901             |               |                |
| Waste Rock                         | 9,439           |               |                |
| Stripping Ratio (Waste:Production) | 7.7             |               |                |

RPA notes approximately 85% of the RoM production is classified as Indicated Mineral Resources.

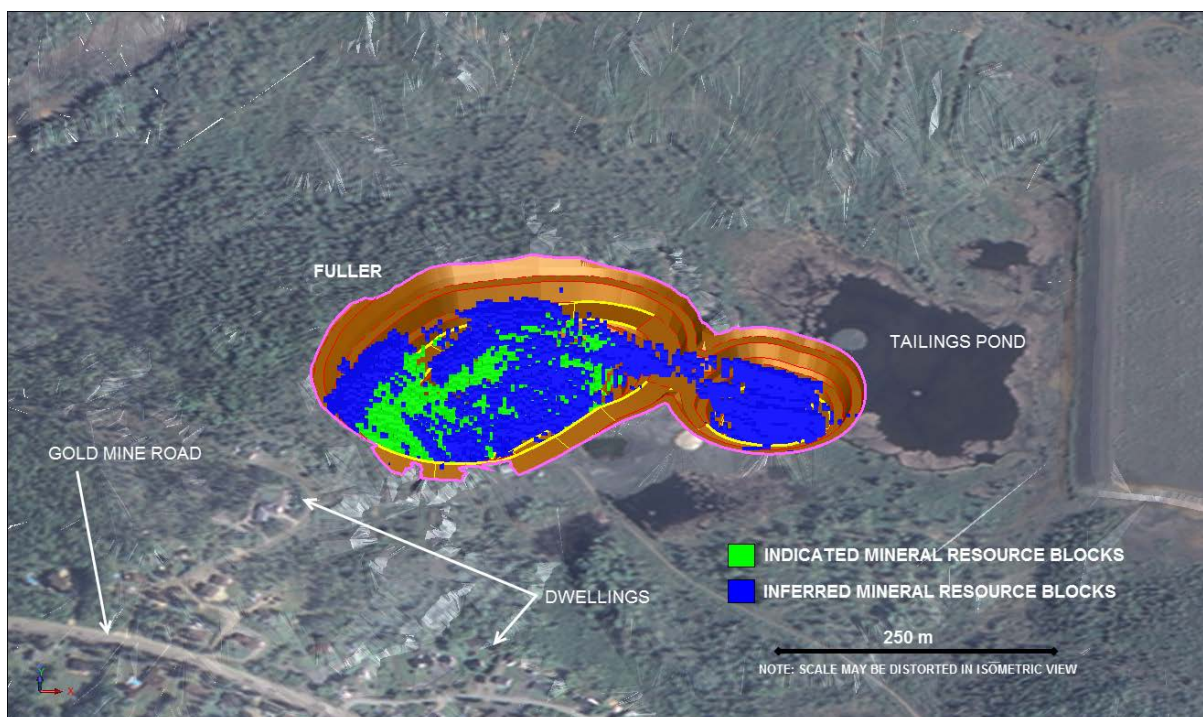


### **FULLER**

The Fuller final design pit is kidney shaped, with a strike length of approximately 550 m. The pit is up to 260 m wide and has a maximum depth of approximately 125 m. The surface footprint is approximately 10 ha.

Figure 16-8 presents an isometric view of the Fuller pit along with classified mineralization at a 0.65 g/t Au cut-off grade.

**FIGURE 16-8 ISOMETRIC VIEW OF FULLER PIT LOOKING NORTH**



The east end of the Fuller pit intersects a relatively small tailings pond. At the southwest end of the pit, a couple of residences are located within 100 m of the pit rim, otherwise, residences along or accessed from Gold Mine Road are approximately 200 m or greater distance from the pit rim.

Table 16-7 presents the RoM mineralized production totals for the Fuller pit, factored for mining dilution and extraction.

**TABLE 16-7 FULLER ROM PRODUCTION**  
**Lexam VG Gold Inc. – Lexam VG Project**

| <b>RoM Material Type</b>           | <b>k tonnes</b> | <b>g/t Au</b> | <b>k oz Au</b> |
|------------------------------------|-----------------|---------------|----------------|
| RoM Mineralized Production:        |                 |               |                |
| Measured                           | -               | -             | -              |
| Indicated                          | 579             | 1.92          | 36             |
| Inferred                           | 614             | 1.77          | 35             |
| Waste Material:                    |                 |               |                |
| Overburden                         | 96              |               |                |
| Waste Rock                         | 8,976           |               |                |
| <hr/>                              |                 |               |                |
| Stripping Ratio (Waste:Production) | 7.6             |               |                |

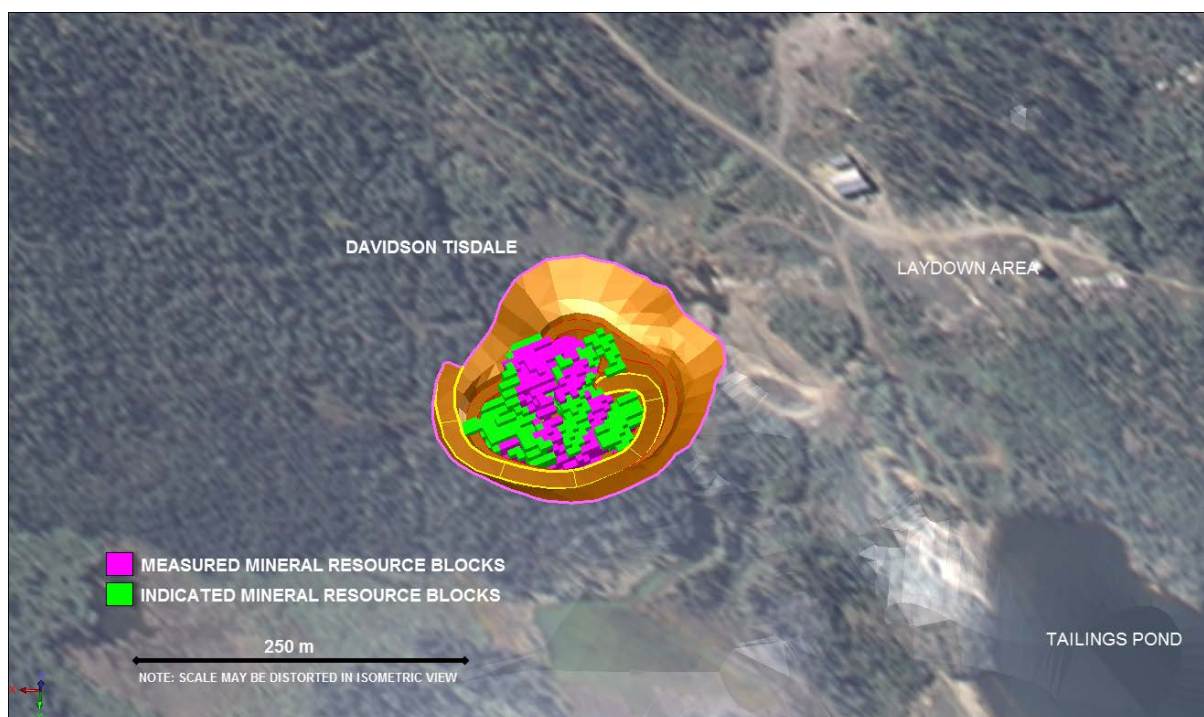
RPA notes approximately 49% of the RoM production is classified as Indicated Mineral Resources.

#### **DAVIDSON TISDALE**

The Davidson Tisdale final design pit is circular with an approximate diameter of 200 m and a maximum pit depth of 60 m. The surface footprint is approximately three hectares.

Figure 16-9 presents an isometric view of the Fuller pit along with classified mineralization at a 0.70 g/t cut-off grade.

**FIGURE 16-9 ISOMETRIC VIEW OF DAVIDSON TISDALE PIT LOOKING SOUTH**



The proposed Davidson Tisdale pit is a pushback to an existing small excavation, which is flooded. Approximately 230 m to the northwest is a relatively large tailings pond. Approximately 150 m to the southwest is an old building and laydown area from historic operations.

Table 16-8 presents the RoM mineralized production totals for the Davidson Tisdale pit, factored for mining dilution and extraction.

**TABLE 16-8 DAVIDSON TISDALE ROM PRODUCTION**  
Lexam VG Gold Inc. – Lexam VG Project

| <b>RoM Material Type</b>           | <b>k tonnes</b> | <b>g/t Au</b> | <b>k oz Au</b> |
|------------------------------------|-----------------|---------------|----------------|
| RoM Mineralized Production:        |                 |               |                |
| Measured                           | 76              | 2.69          | 7              |
| Indicated                          | 39              | 2.74          | 3              |
| Inferred                           | -               | -             | -              |
| Waste Material:                    |                 |               |                |
| Overburden                         | 134             |               |                |
| Waste Rock                         | 1,001           |               |                |
| Stripping Ratio (Waste:Production) | 9.8             |               |                |



RPA notes approximately 66% of the RoM production is classified as Measured Mineral Resources.

#### **SUMMARY OPEN PIT DESIGN**

Table 16-9 presents a summary of RoM open pit production, factored for mining dilution and extraction.

**TABLE 16-9 LEXAM ROM PRODUCTION SUMMARY**  
**Lexam VG Gold Inc. – Lexam VG Project**

| <b>RoM Material Type</b>                | <b>k tonnes</b> | <b>g/t Au</b> | <b>k oz Au</b> | <b>% of Au oz</b> |
|---|-----------------|---------------|----------------|-------------------|
| RoM Mineralized Production:             |                 |               |                |                   |
| Buffalo Ankerite South                  | 1,248           | 2.89          | 116            | 37%               |
| Buffalo Ankerite North                  | 549             | 2.24          | 39             | 12%               |
| Paymaster                               | 1,339           | 1.89          | 81             | 26%               |
| Fuller                                  | 1,193           | 1.84          | 71             | 22%               |
| Davidson Tisdale                        | 115             | 2.71          | 10             | 3%                |
| <b>Total RoM Mineralized Production</b> | <b>4,444</b>    | <b>2.23</b>   | <b>318</b>     | <b>100%</b>       |
| Waste Material:                         |                 |               |                |                   |
| Overburden                              | 5,935           |               |                |                   |
| Waste Rock                              | 36,587          |               |                |                   |
| <b>Total Waste Material</b>             | <b>42,522</b>   |               |                |                   |
| Stripping Ratio (Waste : Production)    | 9.6             |               |                |                   |

**Notes:**

1. RoM mineralized production is inclusive of Measured, Indicated, and Inferred Mineral Resources.
2. RoM production has been factored for mining dilution and extraction (see Table 16-1).
3. RoM production is reported at a cut-off grade of 0.65 g/t Au except for Davidson Tisdale, which is at a cut-off grade of 0.70 g/t Au.
4. Totals may not represent the sum of the parts due to rounding.

Approximately 2% of contained gold is classified as Measured, 77% of contained gold is classified as Indicated, and 21% of contained gold is classified as Inferred.

RPA has compared Whittle pit shell results to the final pit designs and notes similar output for RoM mineralized production, however, there is additional waste material in the design work. This is a result of RPA's design strategy to maximize extraction of mineralization where grades were more than two times the cut-off grade. In order to do so, pit ramp alignments were located outside the limit of the pit shell guide, resulting in additional in-pit waste. RPA recommends further review of proposed haul truck sizes and their impact on ramp widths and waste stripping.

RPA recommends a geotechnical investigation program including analysis of existing data, oriented core drilling, and determination of hydrogeology in order to develop recommendations for overall pit slope angles, bench design criteria, and pumping requirements for use in higher level study.

The intent of this PEA was to solely evaluate the open pit mining potential of the Lexam properties. However, RPA recommends investigation into underground mining potential for two main reasons. First, to potentially add to the mineralized production schedule and improve project economics. Second, to identify the depth at which underground mining of mineralization becomes more profitable than open pit mining. This can be used to identify timing for pit backfilling to occur, without sacrificing a potential future pit pushback. It may also identify that some of the current open pit limits could be partially mined by underground methods at a greater profit margin.

## MINE PLANNING

The following material types are considered for in the mine planning:

- Mineralized material above the production cut-off grade, which is dispatched direct to the toll processing facility or can be stockpiled onsite to be hauled to the toll facility at a later date. All mineralized material requires blasting prior to excavation.
- Waste, consisting of:
  - Mineralized material below the cut-off grade. There is a 'natural' cut-off to the mineralized material that is significantly greater than the estimated cut-off grade, resulting in non-significant quantities of sub-economic mineralized material in-pit. Thus stockpiling for potential future processing was not considered. Blasting is required prior to excavation.
  - Unmineralized material; blasting is required prior to excavation.
  - Overburden; free digging when not frozen.
  - Surface salvage material for reclamation; free digging when not frozen.

Pits are mined in sequence to maximize backfilling opportunities and to reduce the waste disposal area footprint. This is of significant benefit when handling overburden material, as the pit walls will act as containment structures. The mining sequence for the main cluster is: Buffalo Ankerite South (East pit followed by West pit), Buffalo Ankerite North, Paymaster, and Fuller.

Operations at Buffalo Ankerite South require an external waste disposal area; this is located to the immediate south and parallel to the final pit rim. Co-mingling of waste material is assumed for the disposal area. Pre-strip waste material will be available as construction aggregate as suitable.

Waste material from Buffalo Ankerite North will be dispatched to Buffalo Ankerite South. Paymaster waste will initially go to Buffalo Ankerite South, until operations are complete in Buffalo Ankerite North at which point it will be redirected to the shortest haul. An additional opportunity for Paymaster waste is to backfill itself, as multiple pit bottoms are developed.

Fuller waste material will be dispatched to the Paymaster and Buffalo Ankerite North pit with consideration for the shortest haul. As Fuller is the last pit to be mined in the main cluster, there are no plans for its backfill.

At Davidson Tisdale, external waste dump facilities will be developed offset from the pit rim.

A mining contractor is assumed to handle approximately 60% of the total waste material at the main cluster. The contractor will operate in designated waste blocks beyond the limits of mineralized material. The contractor has the ability to employ larger mining equipment and benefit from economies of scale, without concern for mining selectivity.

Lexam will perform mining of all main cluster mineralized production with its own fleet. This will include the surrounding contact waste material up to approximately a four to one stripping ratio. Relatively small excavators with high mining selectivity will be used. Mining benches will be split as required to further improve selectivity, along with pre-split blasting techniques. Lexam haul trucks will also be used for haulage of mineralized production to the toll processing facility.

At Davidson Tisdale, a mining contractor will complete all RoM operations.

During RoM operations, a small component of waste material is re-handled to varying degrees and accounted for in the mine cost estimate. Re-handle can occur in the development of pioneering benches, construction of blast pattern safety berms, fill road and ramp construction, and through spillage and carry-back during load and haul operations.

For the PEA, RPA has assumed all waste material generated during the proposed operations is inert and will not require special handling, storage, or long term collection and monitoring of drainage. RPA recommends investigation into potential for metal leaching and acid rock drainage from the various waste materials generated over the LoM.

Surface materials suitable for reclamation will be stripped and stockpiled in designated areas. As final waste dump faces are developed, salvaged surface materials will be spread and re-vegetated during RoM operations, with all remaining areas reclaimed at the end of RoM operations.

## **CUT-OFF GRADES AND GRADE CONTROL**

### ***CUT-OFF GRADE***

A cut-off Grade is considered for mineralized production scheduling using metal pricing of US\$1,200.00 per ounce gold. The cut-off grade was estimated for each deposit using revenue factors, selling costs, and processing parameters listed in Table 16-1. Mining parameters are excluded from the cut-off grade calculation because the open pit optimization considers for the spatial location of each block and its associated mining cost as part of the decision to include the block within the pit limit.

For the main cluster, the estimated cut-off grades were within 0.1 g/t Au of each other, thus were rounded up to a single value of 0.65 g/t Au to be applied to each. At Davidson Tisdale, the estimated value was rounded to 0.70 g/t Au.

The estimated cut-off grade is applied to the metal grades modified for mining dilution and extraction. Mineral Resources above the estimated cut-off grade, and within the final design pit limits, are reported as mineralized production.

### ***GRADE CONTROL***

Grade control practices that may be implemented during operations are:

- Development drilling of benches,
- Pit wall and floor mapping,
- Blast hole sampling,
- 'Ore' control model tracking,
- Controlled blasting practices,
- Blast movement monitoring,

- Visual control,
- Controlled mining direction.

## ROM PRODUCTION SCHEDULE

The Project's open pit RoM production schedule includes Measured, Indicated, and Inferred Mineral Resources with modifying factors for mining dilution and extraction. Full production of mineralization is targeted at 0.7 Mtpa (2,000 tpd) starting in Year 2; Year 1 production is at 85% of target. Hard rock material movement is balanced at approximately 6.5 Mtpa. There is a half year pre-strip requirement scheduled for Year -1.

The RoM production schedule by year is presented in Table 16-10.

**TABLE 16-10 LEXAM ROM PRODUCTION SCHEDULE**  
Lexam VG Gold Inc. – Lexam VG Project

| Item                                    | Units | Total/<br>Average | Year:<br>-1 | 1     | 2     | 3     | 4     | 5     | 6     | 7     |
|---|-------|-------------------|-------------|-------|-------|-------|-------|-------|-------|-------|
| RoM Production                          | kt    | <b>4,444</b>      | 0           | 595   | 700   | 700   | 700   | 700   | 700   | 349   |
| Grade, Au                               | g/t   | <b>2.23</b>       | -           | 3.20  | 2.58  | 2.27  | 1.83  | 2.00  | 1.70  | 2.06  |
| Contained, Au                           | koz   | <b>318</b>        | -           | 61    | 58    | 51    | 41    | 45    | 38    | 23    |
| Waste, Overburden                       | kt    | <b>5,935</b>      | 1,570       | 1,425 | 1,425 | 1,405 | 14    | 26    | 70    | 0     |
| Waste, Rock                             | kt    | <b>36,587</b>     | 2,005       | 6,410 | 5,895 | 5,895 | 5,884 | 5,078 | 4,430 | 990   |
| Total Moved                             | kt    | <b>46,965</b>     | 3,575       | 8,430 | 8,020 | 8,000 | 6,597 | 5,804 | 5,199 | 1,339 |
| Stripping Ratio (Waste :<br>Production) |       | <b>9.6</b>        | -           | 13.2  | 10.5  | 10.4  | 8.4   | 7.3   | 6.4   | 2.8   |

Notes:

1. RoM production is inclusive of Measured, Indicated, and Inferred Mineral Resources.
2. RoM production has been factored for mining dilution and extraction (see Table 16-1).
3. RoM production is reported at a cut-off grade of 0.65 g/t Au except for Davidson Tisdale, which is at a cut-off grade of 0.70 g/t Au.
4. Totals may not represent the sum of the parts due to rounding.

RoM mineralized production totals 4.4 Mt along with 42.5 Mt of waste for a LoM waste to production strip ratio of 9.6:1 over a projected mine life of approximately 6.5 years.

Figure 16-10 presents a graph of the RoM production schedule by year.

**FIGURE 16-10 ROM PRODUCTION SCHEDULE BY YEAR**

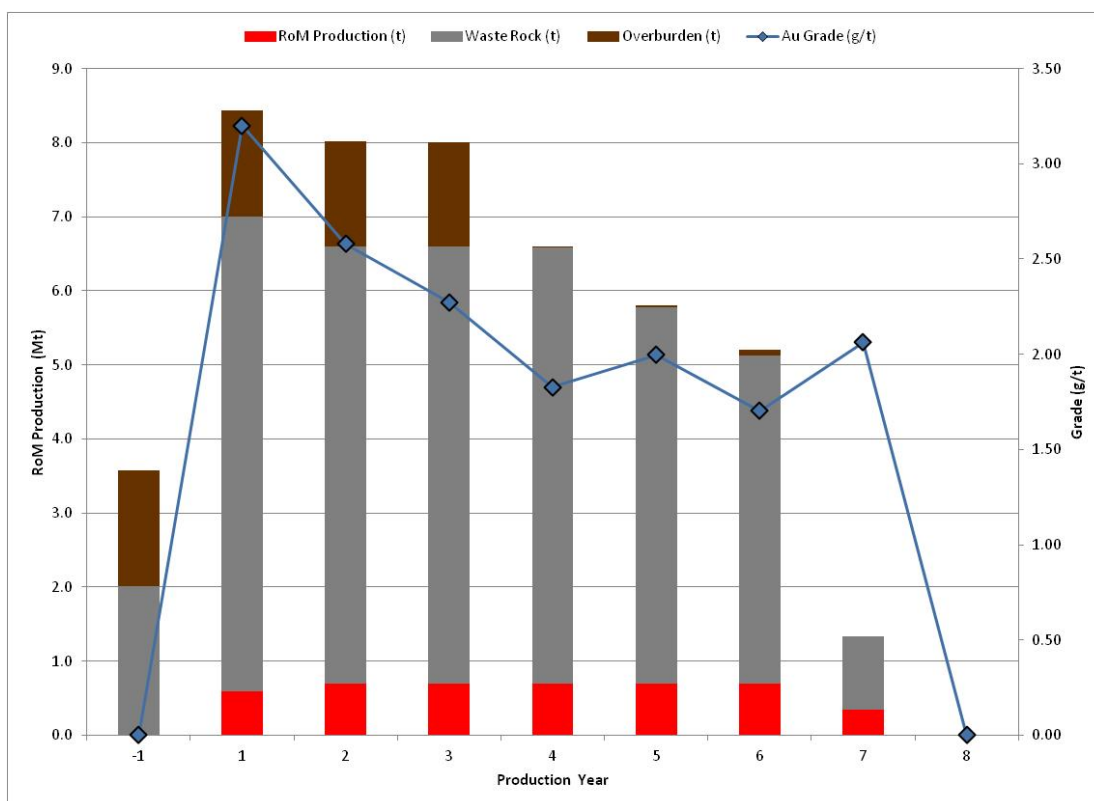


Table 16-11 presents the pit scheduling of each deposit by year.

**TABLE 16-11 PIT SCHEDULING**  
Lexam VG Gold Inc. – Lexam VG Project

| Deposit                | Prestrip Year | First Mineralized Production Year | Final Pit Production Year |
|------------------------|---------------|-----------------------------------|---------------------------|
| Buffalo Ankerite South | -1            | 1                                 | 3                         |
| Buffalo Ankerite North | 1             | 3                                 | 3                         |
| Paymaster              | 2             | 3                                 | 5                         |
| Fuller                 | 5             | 5                                 | 7                         |
| Davidson Tisdale       | 1             | 1                                 | 1                         |

#### **DEVELOPMENT TIMELINE**

Year 1 of the production schedule corresponds to 2017. Prior to this time, further infill drilling is recommended to increase mineral classification confidence, along with advanced studies including further metallurgical testwork, geotechnical investigation of pit walls, and site hydrology and hydrogeology to develop an overall site water balance. This work should be performed in parallel with permitting activities.

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## **MINE EQUIPMENT FLEET**

The Project is a conventional open pit mining operation with both a mining contractor and Owner mining.

The Lexam equipment fleet is geared toward the ability to perform selective mining at relatively low production rates. Two backhoe excavators with three cubic metre buckets are specified to load a fleet of 35 t capacity rigid frame haul trucks. Cleaning of mineralized contacts is scheduled for day shift only. Crawler drill rigs will be utilized for production drilling, pre-splitting mineralization, and development drilling of benches.

A mining contractor is specified for waste rock mining and for road and dump maintenance. During scoping work, a higher production rate was considered, which resulted in the decision to use design road widths that would accommodate a 90 t capacity rigid frame haul truck. At current proposed production rates, 90 t capacity haul trucks may be considered excessive; if a smaller truck size were used it represents an opportunity to design narrower haul roads and reduce waste quantities.

Numerous mining contractors are located in the Timmins area, offering an environment for a competitive bidding process. For the selected contractor, the location allows for quick and inexpensive mobilization and demobilization of equipment on an as required basis. RPA estimates a single excavator setup for four pass loading a 90 t capacity haul truck is more than sufficient to meet the waste production requirement. Although this sort of setup would not be recommended for a remote logistically challenged location, it is reasonable in the Timmins location, assuming the contractor has the ability to quickly mobilize equipment spares if required.



## 17 RECOVERY METHODS

Toll processing is proposed for the Project. The anticipated recovery circuit includes grinding to a particle size of approximately 80% minus 75  $\mu\text{m}$ , followed by gravity gold concentration and cyanide leaching of the gravity tailings.

## 18 PROJECT INFRASTRUCTURE

The Project is well serviced with existing infrastructure and is in close proximity to numerous major service providers. Site infrastructure requirements are minimal as processing of mineralization along with containment of tailings will be located off-site at a toll processing facility.

The conceptual design for the Project includes:

- Re-alignment of Gold Mine Road;
- Site access and service roads;
- Power supply and distribution;
- Water supply and distribution;
- Surface water management infrastructure;
- Open pit areas;
- Waste storage areas;
- Administration buildings;
- Shop/warehouse buildings;
- Assay lab;
- Laydown areas;
- Guard house and security infrastructure;
- Mine rescue facility;
- Fuel storage and distribution;
- Explosives magazines and storage site;
- Sewage and solid waste management infrastructure;
- Communications systems.

Access to all the Project sites exists via paved and gravel roads. On-site roads required for production will be constructed or upgraded as required with waste rock from stripping.

A 500 kV power transmission line passes within two kilometres of the main cluster and the Porcupine Transformer Station is located approximately two kilometres to the north.

The primary use of water at the Project will be for dust abatement. It is expected there will be sufficient surface and ground water inflow into historic underground workings available.

Explosives services will be provided on a contracted basis with delivery of explosives into the blast hole. Dependent on the service provider's requirements, explosives infrastructure may not be required at the Project site.

## 19 MARKET STUDIES AND CONTRACTS

### **MARKETS**

At this level of study, no market studies have been conducted. It is assumed that gold doré from the Project will be sold on the international market.

Gold markets are mature global markets. Gold is a principal metal traded at spot price for immediate delivery. The market for gold is trading almost 24 hours per day with a location somewhere in the world that is usually open. Gold trading activity takes place in many markets including New York, London, Zurich, Sydney, Tokyo, Hong Kong, and Dubai. Daily prices are quoted on the New York spot market and can be found on [www.kitco.com](http://www.kitco.com). The average gold price for 2014 through March 31 is US\$1,294/oz. The current price as of March 31, 2014, is US\$1,292/oz. The three-year and five-year rolling average prices through the end of March 2014 are US\$1,542/oz and US\$1,388/oz, respectively. This PEA uses a long term consensus price of US\$1,300/oz gold for the economic analysis.

Lexam operations are expected to produce an annual average of approximately 45,000 oz gold over a 6.5 year mine life.

### **CONTRACTS**

No sales contracts exist at this time.

The LoM production schedule for the PEA includes provision of the following services by contractor:

- Pre-production construction and earthworks,
- Explosives supply and blasthole loading,
- A portion of open pit RoM waste production.

No contracts or negotiations are in place at this time for the development of the Project.

## **20 ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT**

The Project is proposed as a 0.7 Mtpa (2,000 tpd) open pit gold mine operation with toll processing at an off-site facility. The Project consists of multiple open pits within the City of Timmins. The majority of the pits are within the “main cluster”, approximately three to five kilometres southeast of the intersection of Highways 101 and 655.

Several environmental studies and documents have been previously completed for the various properties that make up the Project. These studies include: water quality monitoring, aquatic assessments, Metal Leaching/Acid Rock Drainage (ML/ARD) investigations, and permit applications for a smaller project involving the Buffalo Ankerite Property. These historical studies will provide useful baseline information, however, additional studies will be required in order to develop the currently proposed Project. Considering a federal environmental assessment, closure plan, and permit requirements, the process to approve the Project will likely take several years. However, if it can be shown that a federal environmental assessment is not required, then the approval process could be shortened, but it would still likely take two years from present for other required approvals.

### **ENVIRONMENTAL ASSESSMENT REQUIREMENTS**

The requirements for an Environmental Assessment (EA) changed in Canada in July 2012. An open pit gold mine operating at a rate of 2,000 tpd will likely require a federal EA under the Canadian Environmental Assessment Act (CEAA) 2012. Under CEAA, if a project is captured by the regulations outlining physical activities likely to require a federal EA, proponents must provide the Canadian Environmental Assessment Agency a description of their proposed project. Upon receipt of the proponent’s project description, the Agency has 45 days to determine if an EA will be required. The regulations designating physical activities that could require an EA list the “construction, operation, decommissioning and abandonment of a gold mine with a production capacity of 600 tpd or more” as a designated physical activity. It is likely that the Agency would determine an EA is required unless the proponent can demonstrate there will be no potential for environmental effects in areas of federal jurisdiction, which include fish and fish habitat, other aquatic species, and migratory birds.

In addition to physical and biological environment issues, economic, social, cultural, human health, and aboriginal issues will be important aspects of the EA. The timeline for the federal government to complete its review of the EA is one year, except in the case where the project is referred to a review panel, in which case the timeline for the review is two years. These timelines do not include the time for the proponent to prepare the project description, the 45 day review of the project description, as well as preparation of the EA, or to provide any information missing from the submitted EA.

A provincial EA is not specifically required for a mining project in Ontario, however on rare occasions the province may require one. It should be noted that as of May 2014, there has only been one project such as this and in that case the federal and provincial EA's were combined. However, a provincial class EA will be required for new road(s) associated with the project. It is not likely that this will entail a longer timeline than a federal EA.

### **CLOSURE PLAN(S)**

Closure Plans will be required prior to mine production, and for certain cases, prior to advanced exploration. A Closure Plan for Advanced Exploration is to be filed with the Ontario Ministry of Northern Development and Mines (MNDM) if a bulk sample in excess of 1,000 tonnes is to be taken prior to full production under Ontario Regulation 240/00 and the Ontario Mining Act. A Closure Plan for Mine Production is to be filed with the MNDM prior to full production. In practice a draft would likely be required as part of the EA. A Notice of Project Status and Public Notice under Regulation 240/00 will also be required for each of the above.

The Closure Plans would include: a description of the current environment, description of mining plans, conceptual design of remediation strategies for waste rock deposits, pits, and other facilities, closure plans for various stages of closure, progressive rehabilitation, estimation of closure costs, assessment of current and future groundwater and surface water quality, and development of monitoring, and care and maintenance programs.

### **OTHER APPROVALS**

In addition to a federal EA and provincial Closure Plan(s), the following environmental approvals will be required before the sites can be developed:

- An Ontario Environmental Compliance Approval (ECA) replaces the previous Ontario Certificates of Approval, and will be required for a number of activities, including all emissions, discharges and wastes associated with air, noise, waste and sewage, including:
  - air and noise emissions;
  - sewage works for industrial effluent treatment and discharge from the mining operations;
  - potentially for sewage works for domestic sewage from the operation;
- Ontario Permit to take Water (PTTW) for dewatering caused by open pit development, potentially for impoundment of water on the sites, and potentially for water requirements such as dust abatement (applicable where more than 50 m<sup>3</sup>/day in total is taken);
- Work Approval from Ontario Ministry of Natural Resources (MNR) for work in the vicinity of a water body and for approval of water retaining structures, and potentially for rights to Crown timber;
- Waste Generator Registration, Ontario Ministry of the Environment (MOE), for wastes generated on-site such as oils, solvents, etc.;
- Notice of Project – Ontario Ministry of Labour;
- Approval under Explosives Act;
- Work Permit, Public Lands Act, for construction of roads, etc.;
- Site plan control agreement with City of Timmins.

## REQUIRED STUDIES

Several studies and activities will be required to obtain the above-noted approvals and for the EA. These include:

- Metal Leaching/Acid Rock Drainage (ML/ARD) Assessment;
- Baseline Surface Water Quality;
- Baseline Aquatic Environment Characterization;
- Hydrological Characterization (surface water flow);
- Stormwater Management Report;
- Baseline Hydrogeological Characterization (groundwater quality and flow);
- Baseline Terrestrial Characterization;
- Baseline Noise Assessment;
- Design of Effluent Treatment System;
- Design of water impoundment structures;
- Public Consultation;
- First Nations Consultation;
- Baseline Soil Quality Characterization;

- Modelling of environment in and around pits for the post-closure period (includes hydrology, hydrogeology, geochemistry, outflow quality, and estimated downstream effects to water quality).

The main approvals and closure plans that will be required are described in more detail below. In Table 20-1, the relationship between the various studies and the various approvals is presented. It can be seen that many of the studies will be required for more than one application.

#### **ONTARIO WATER RESOURCES ACT (OWRA) APPROVAL OF INDUSTRIAL SEWAGE WORKS UNDER SECTION 53**

The ECA will require a site plan, sewage quantity and quality characteristics, design brief/report, engineering drawings and specifications, environmental impact analysis for both surface water and groundwater, and a stormwater management report. This will be required whether the treatment is very simple, such as retention and settling, or more complex.

#### **ML/ARD ASSESSMENT**

Ontario's Mine Rehabilitation Code requires the proponent to "determine the potential for significant metal leaching (ML) or acid rock drainage (ARD) and, if necessary, to ensure the development and implementation of effective prevention, mitigation and monitoring strategies". If the interpretation shows no ML/ARD issues, no further work is required. If, however, the interpretation shows that the materials to remain on-site have the potential to develop ML/ARD, then *"a management plan shall be developed to ensure that these materials do not adversely affect the quality of the environment"*.

A ML/ARD assessment can be a multi-stage program, however the need for more than a first stage assessment (consisting of static tests such as acid base accounting and metals analyses) depends on the waste characteristics and on the waste rock management plans for the site. Based on the initial results, dynamic tests (such as humidity cells) may also be required.

Based on existing information from adjacent deposits as well previous assessment of the Lexam VG Project deposits, it is likely that the results of the assessment will show that there is low potential for significant ML or ARD for much of the ore and waste rock. One issue that will have to be addressed for the development of Buffalo Ankerite South is the potential for drainage with elevated arsenic originating from the neighbouring Delnite Mine property to



migrate through the Buffalo Ankerite South pit upon closure, potentially affecting water quality.

#### **GROUNDWATER ASSESSMENT**

A certified groundwater assessment is required for a closure plan (for both advanced exploration and for mine production). Such an assessment must address the requirements of the Mine Rehabilitation Code. A groundwater assessment will also be required as part of the Industrial Sewage application and the EA. Questions that will have to be addressed include:

- What level will the pits flood to upon closure;
- Water quality in the backfilled pits, and potential effects on the environment from surface water discharge; and
- Rate and direction of groundwater flow from the pits, and potential effects on the environment.

#### **SURFACE WATER QUALITY AND QUANTITY AND AQUATIC ENVIRONMENT ASSESSMENT**

Assessments of surface water quality and quantity, and the aquatic environment, are required for the closure plan and EA in order to describe the existing environment. In addition, water quality monitoring and aquatic assessment will also be required for provincial applications.

#### **METAL MINING EFFLUENT REGULATION (MMER)**

The Project will be subject to MMER if it exceeds an effluent flow rate of 50 m<sup>3</sup> per day. The MMER, under the Fisheries Act, requires metal mines to conduct an Environmental Effects Monitoring program (EEM). Periodic monitoring and reporting is required, and the regulation includes effluent discharge limits.

#### **SITE DESIGN INFORMATION**

Site design information will be required in order to adequately describe the proposed mine facilities, as well as for specific provincial approvals as discussed below.

#### **OWRA APPROVAL**

The ECA will need to include approval of Industrial Sewage Works under Section 53 of the OWRA for water management, treatment, and discharge system, including waste rock management.

### **AIR APPROVAL**

The ECA will also include approval for air emissions (dust and noise). As with the Industrial Sewage application, consultation with the MOE on the details of the air application will be required. In addition to permit requirements, and due to the proximity of the pits to residential areas, both dust and noise will be potentially significant issues. Consultation with the City of Timmins and local residents will be key. It should be noted that the Hollinger Project, under development as of 2014, successfully dealt with similar noise and dust issues (The Hollinger Project is a redevelopment of a former underground gold mine into a large open pit, and is located northwest of the proposed Project main cluster, immediately south of the intersection of Highways 101 and 655). In addition to provincial requirements, the Project will also have to meet City of Timmins zoning bylaws with respect to minimum separation distances between residences and the mine development. The actual separation distance will need to be determined based on technical studies.

### **FIRST NATIONS CONSULTATION**

Consultation will be required with any First Nations potentially affected by the project. Consultation will be required to address the requirement of Ontario's mining regulations, as well as for provincial ECA approvals, and for the federal EA.

**TABLE 20-1 REQUIRED STUDIES FOR KEY APPROVALS**  
**Lexam VG Gold Inc. – Lexam VG Project**

| <b>Study:</b>                    | <b>Approval:</b>                                   |   |  |                              |   | <b>CEAA - EA<br/>(Federal)</b> |
|----------------------------------|--|---|--|------------------------------|---|--------------------------------|
|                                  | <b>Closure Plan<br/>- Advanced<br/>Exploration</b> | <b>Closure<br/>Plan - Full<br/>Mine</b> | <b>Ontario ECA<br/>- Industrial<br/>Sewage</b> | <b>Ontario<br/>ECA - Air</b> | <b>Ontario<br/>Permit to<br/>Take Water</b> |                                |
| ML/ARD Assessment                | yes  | yes                                     | yes  | no                           | no  | yes                            |
| Surface Water Quality            | yes  | yes                                     | yes  | no                           | yes   | yes                            |
| Hydrology                        | yes  | yes                                     | yes  | no                           | yes   | yes                            |
| Aquatic Environment              | yes  | yes                                     | yes  | no                           | yes   | yes                            |
| Hydrogeology                     | yes  | yes                                     | yes  | no                           | yes   | yes                            |
| Terrestrial Environment          | yes  | yes                                     | yes  | no                           | no  | yes                            |
| Effluent Treatment System Design | yes  | yes                                     | yes  | no                           | no  | no                             |
| Noise Assessment                 | no   | no                                      | no   | yes                          | no  | yes                            |
| Soil Quality                     | possibly   | yes                                     | possibly                                       | possibly                     | no  | yes                            |
| Pit Modelling for Closure        | not likely   | possibly                                | possibly                                       | possibly                     | no  | Yes                            |
| Public Consultation              | yes  | yes                                     | yes  | yes                          | yes   | yes                            |
| First Nations Consultation       | yes  | yes                                     | yes  | yes                          | yes   | yes                            |

## 21 CAPITAL AND OPERATING COSTS

All costs are expressed in fourth quarter 2013 Canadian dollars (C\$ or \$) unless otherwise specified.

### CAPITAL COSTS

The estimated cost to construct and commission the Project as described in this PEA is approximately C\$58 million. This amount includes the direct field costs of executing the Project, plus indirect and owner's costs associated with design, construction, and commissioning. Cost estimates are based on the PEA design, and are considered to have an accuracy of +/- 35%. Capital costs are summarized in Table 21-1.

**TABLE 21-1 CAPITAL COST SUMMARY**  
**Lexam VG Gold Inc. – Lexam VG Project**

| Area                         | Construction Cost<br>(C\$ millions) | Ongoing Cost<br>(C\$ millions) | Total Cost LoM<br>(C\$ millions) |
|------------------------------|-------------------------------------|--------------------------------|----------------------------------|
| Infrastructure               | 7                                   | 3                              | 9                                |
| Mine                         | 25                                  | 1                              | 26                               |
| Resettlement                 | 8                                   | 1                              | 9                                |
| Subtotal Direct Capital Cost | 40                                  | 5                              | 44                               |
| Indirect Cost                | 3                                   | 0                              | 3                                |
| Owner's Cost                 | 5                                   | 0                              | 5                                |
| Contingency                  | 10                                  | 0                              | 10                               |
| Closure                      | 0                                   | 5                              | 5                                |
| <b>Total Capital Cost</b>    | <b>58</b>                           | <b>9</b>                       | <b>67</b>                        |

Notes:

1. Totals may not represent the sum of the parts due to rounding.

Exclusions from the capital cost estimate include, but are not limited to, the following:

- Project financing and interest charges;
- Working capital;
- Taxes, import duties, and custom fees.

Infrastructure capital cost includes the Gold Mine Road re-alignment, surface water management structures, site preparation, and other items as per Section 18.

Mine capital cost includes Lexam mine equipment purchases, contractor mobilization and demobilization costs, and approximately C\$9 million in pre-stripping charges.

Resettlement costs are related to compensation to home owners. RPA notes the majority of properties considered for resettlement are not directly within the open pit footprints or associated surface infrastructure footprints; it is their proximity to the Project that is of concern. At the conclusion of operations, some of the properties may be suitable for sale, however, this value is not accounted for in the costs.

For estimation of NPI and consideration of joint ventures, certain capital costs have been allotted in full to specific areas (e.g. pre-stripping and site preparation), while other capital costs have been pro-rated to LoM gold production (e.g. mining equipment purchase).

## OPERATING COSTS

Operating costs are estimated for a steady state of 0.7 Mtpa production (2,000 tpd) on a year round operating basis. Total operating costs average approximately \$42 million per year. Operating unit and total costs are summarized in Table 21-2.

**TABLE 21-2 OPERATING COST SUMMARY**  
**Lexam VG Gold Inc. – Lexam VG Project**

| Area                        | Units                   | LoM Unit Cost | Total Cost LoM<br>(C\$ millions) |
|-----------------------------|-------------------------|---------------|----------------------------------|
| Mining                      | C\$/t moved             | 3.45          | 162                              |
| Mining                      | C\$/t production        | 36.46         | 162                              |
| Processing                  | C\$/t production        | 17.96         | 80                               |
| G&A                         | C\$/t production        | 7.31          | 32                               |
| <b>Total Operating Cost</b> | <b>C\$/t production</b> | <b>61.73</b>  | <b>274</b>                       |
| Cash Operating Cost         | US\$/oz Au produced     | 842           |                                  |

Notes:

1. Totals may not represent the sum of the parts due to rounding.

## 22 ECONOMIC ANALYSIS

The economic analysis contained in the PEA is based, in part, on Inferred Resources, and is preliminary in nature. Inferred Resources are considered too geologically speculative to have mining and economic considerations applied to them and to be categorized as Mineral Reserves. There is no certainty that economic forecasts on which this PEA is based will be realized.

RPA has generated a pre-tax cash flow projection from the LoM production schedule and capital and operating cost estimates, which is summarized in Table 22-1. A summary of the key criteria is provided below. Results of an after-tax cash flow projection are also provided, where RPA has relied on Lexam for guidance on taxes, royalties, and other government levies or interests, applicable to revenue or income from the Project.

The economic analysis is presented on a 100% Lexam ownership basis. All dollar amounts are expressed in fourth quarter 2013 Canadian dollars (C\$ or \$) unless otherwise specified.

### ECONOMIC CRITERIA

#### **PRODUCTION**

Open pit production totals for the LoM are:

- 47.0 Mt total moved consisting of:
  - 4.4 Mt of mineralization,
  - 42.5 Mt of waste material,
  - Waste stripping ratio of 9.6:1 (waste : mineralization).
- Mineralized production, which has been factored for mining dilution and extraction, consists of:
  - 76,000 t of Measured Mineral Resources at 2.64 g/t Au for 6,500 oz of contained gold.
  - 3,348,000 t of Indicated Mineral Resources at 2.28 g/t Au for 245,500 oz of contained gold.
  - 1,020,000 t of Inferred Mineral Resources at 1.99 g/t Au for 65,100 oz of contained gold.
  - Approximately 80% of the contained gold ounces in mineralized production are classified as Measured or Indicated Mineral Resources.
- Pre-production period of one year (Year -1).
- First year of production (Year 1) corresponds to the year 2017.

- Mine life of 6.5 years.
- Steady state production of 0.7 Mtpa mineralization (approximately 2,000 tpd).
- Average total material movement of approximately 6.7 Mtpa (approximately 19,000 tpd).
- Total contained metal of approximately 318,000 oz of gold.
- Metal recovery averaging 92% gold.
- Total recovered metal of approximately 293,000 oz of gold.

**REVENUE**

- Metal price: US\$1,300/oz gold.
- Exchange rate C\$1.00 = US\$0.90.
- 99.0% payable for gold.
- Revenue is recognized at the time of production.
- No salvage value applied to any of the equipment or infrastructure.

**COSTS**

- Selling cost of US\$5.00/oz gold.
- Pre-production capital cost total of \$58 million; includes indirects and contingency.
- Ongoing capital cost of \$5 million.
- Closure cost of \$5 million.
- LoM operating cost total of \$274 million; average of \$61.73 per tonne mineralized production.

**ROYALTIES AND OWNERSHIP**

There are no NSR royalties on any of the properties.

NPI agreements exist on some of the properties, or portions of, as follows:

- Buffalo Ankerite South – 20% and 10% to Summit.
- Buffalo Ankerite North – 10% to Summit.
- Fuller – 10% to Summit.

The NPI's are accounted for in the cash flow model prior to taxation.

Joint Venture (JV) agreements exist on some of the properties, or portions of, as follows:

- Buffalo Ankerite South – Goldcorp holds a 40% JV share.
- Buffalo Ankerite North – Goldcorp holds a 40% JV share.
- Paymaster – Goldcorp holds a 40% JV share.
- Davidson Tisdale – SGX holds a 31.5% JV share.

The JV's are accounted for in the production schedule, however, the economic analysis is presented on a 100% Lexam ownership basis.

#### **TAXATION**

Details on taxation were supplied by Lexam and RPA has relied upon this information for the purposes of the PEA. Listed below are the tax assumptions used in the PEA:

- A tax loss carry-forward of deferred expenses of approximately \$25 million was applied.
- A combined federal and provincial corporate tax rate of 25% was applied with a provincial exemption of \$1 million.
- Amortization of investments applicable on the basis of the Straight Line System at 25% annually with a 50% inclusion rate during the year the expense is incurred.

Table 22-1 presents the pre-tax and after-tax cash flow summary for the Project.



**TABLE 22-1 CASH FLOW SUMMARY**  
 Lexam VG Gold Inc. – Lexam VG Project



|                                    |       |       |            | Year: |     |     |     |     |     |     |     |
|------------------------------------|-------|-------|------------|-------|-----|-----|-----|-----|-----|-----|-----|
|                                    | Units | Value | Total/Avg. | -1    | 1   | 2   | 3   | 4   | 5   | 6   | 7   |
| Production Schedule                |       |       |            |       |     |     |     |     |     |     |     |
| Waste                              | Mt    |       | 42.5       | 3.6   | 7.8 | 7.3 | 7.3 | 5.9 | 5.1 | 4.5 | 1.0 |
| Mineralization                     | Mt    |       | 4.4        | 0.0   | 0.6 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.3 |
| Recovered Gold                     | koz   |       | 293        | 0     | 57  | 54  | 48  | 38  | 41  | 34  | 21  |
| Revenue                            |       |       |            |       |     |     |     |     |     |     |     |
| Gross Revenue                      | C\$ M |       | 421        | 0     | 82  | 78  | 69  | 54  | 59  | 49  | 30  |
| Net Revenue                        | C\$ M |       | 420        | 0     | 82  | 78  | 69  | 54  | 59  | 49  | 29  |
| Costs                              |       |       |            |       |     |     |     |     |     |     |     |
| Total Operating Cost               | C\$ M |       | 274        | 0     | 44  | 46  | 46  | 43  | 41  | 39  | 16  |
| Pre-production Capital Cost        | C\$ M |       | 58         | 58    | -   | -   | -   | -   | -   | -   | -   |
| Sustaining Capital Cost            | C\$ M |       | 5          | -     | 2   | 1   | 0   | 1   | 0   | 0   | 0   |
| Closure Cost                       | C\$ M |       | 5          | -     | 0   | 1   | 0   | 0   | 1   | 1   | 2   |
| NPIs                               | C\$ M |       | 6          | -     | 0   | 5   | 1   | 0   | 0   | 0   | 0   |
| Pre-Tax Economics                  |       |       |            |       |     |     |     |     |     |     |     |
| Net Pre-tax Cash Flow              | C\$ M |       | 73         | -58   | 35  | 25  | 22  | 11  | 17  | 9   | 12  |
| Cumulative Net Pre-tax Cash Flow   | C\$ M |       |            | -58   | -22 | 3   | 25  | 36  | 53  | 61  | 73  |
| IRR                                | %     | 36%   |            |       |     |     |     |     |     |     |     |
| Payback                            | Years | 1.9   |            |       |     |     |     |     |     |     |     |
| NPV at a Discount Rate of 7.5%     | C\$ M | 41    |            |       |     |     |     |     |     |     |     |
| After-Tax Economics                |       |       |            |       |     |     |     |     |     |     |     |
| Net After-tax Cash Flow            | C\$ M |       | 61         | -58   | 32  | 24  | 22  | 11  | 15  | 7   | 8   |
| Cumulative Net After-tax Cash Flow | C\$ M |       |            | -58   | -25 | -1  | 20  | 31  | 46  | 53  | 61  |
| IRR                                | %     | 32%   |            |       |     |     |     |     |     |     |     |
| Payback                            | Years | 2.1   |            |       |     |     |     |     |     |     |     |
| NPV at a Discount Rate of 7.5%     | C\$ M | 33    |            |       |     |     |     |     |     |     |     |

Notes:

1. Totals may not represent the sum of the parts due to rounding.

## **ECONOMIC ANALYSIS AT US\$1,300/OZ AU**

The pre-production capital expenditure for the Project is approximately \$58 million. Considering the Project on an all equity stand-alone basis, the undiscounted pre-tax cash flow totals approximately \$73 million and simple payback occurs approximately two years from the start of production, leaving a production tail of over four years. The NPV at a 7.5% discount rate is \$41 million and the Internal Rate of Return (IRR) is 36%.

The cash operating cost is US\$842/oz gold, while the all-in sustaining cost is US\$866/oz of gold.

On an after-tax basis, the undiscounted cash flow totals approximately \$61 million, the NPV at a 7.5% discount rate is \$33 million, and the IRR is 32%.

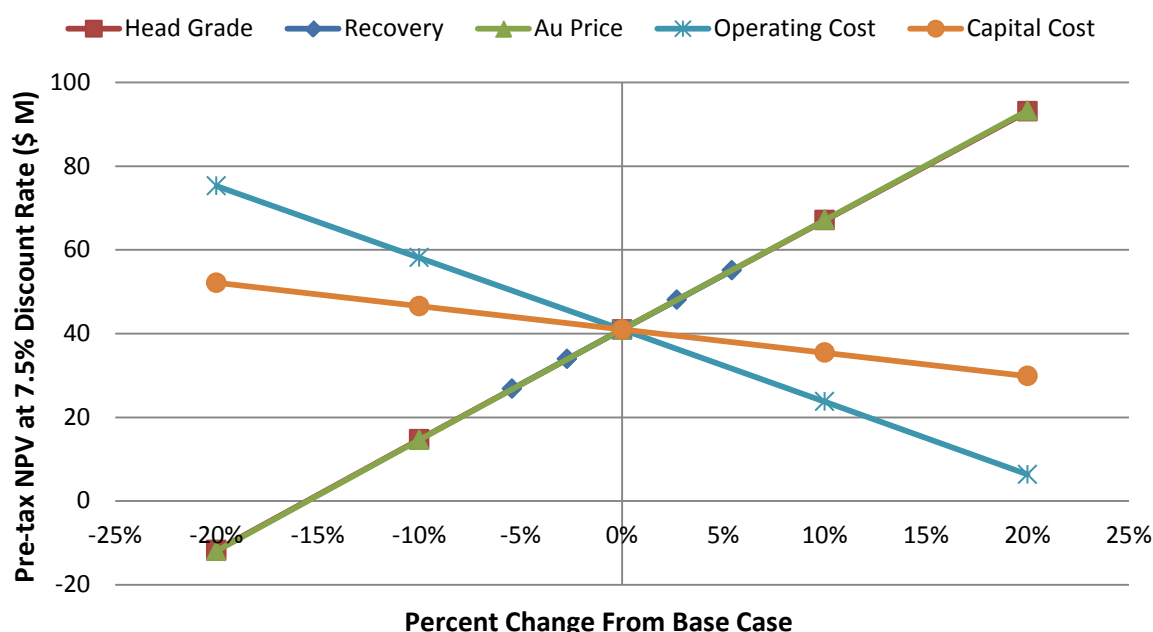
In RPA's opinion, the PEA indicates a viable project with a reasonable return on capital and consideration for further development is warranted.

## **SENSITIVITY ANALYSIS**

Project risks can be identified in both economic and non-economic terms. Key economic risks were examined by running cash flow sensitivities to:

- Revenue factors:
  - Gold price,
  - Head grade,
  - Gold recovery,
- Operating costs, and
- Pre-production capital costs.

Pre-tax NPV sensitivity over the base case has been calculated for -20% to +20% variations to the key economic parameters, with the exception of gold recovery, which was tested over a range of 87% to 97% gold recovery in increments of 2.5 percentage points. The sensitivities are shown in Figure 22-1 and Table 22-2.

**FIGURE 22-1 PRE-TAX SENSITIVITY ANALYSIS**

**TABLE 22-2 SENSITIVITY ANALYSIS**
**Lexam VG Gold Inc. – Lexam VG Project**

| Pre-tax NPV Analysis<br>(C\$ millions) | -20% | -10% | Base<br>Case | +10% | +20% |
|--|------|------|--------------|------|------|
| Head Grade                             | -12  | 15   | 41           | 67   | 93   |
| Recovery                               | 27   | 34   | 41           | 48   | 55   |
| Gold Price                             | -12  | 15   | 41           | 67   | 93   |
| Operating Cost                         | 75   | 58   | 41           | 24   | 6    |
| Capital Cost                           | 52   | 47   | 41           | 35   | 30   |

**Notes:**

3. Pre-tax NPV presented at a 7.5% discount rate.
4. Gold recovery sensitivity is at 87%, 89.5%, 92%, 94.5%, and 97% corresponding to -20%, -10%, Base, +10%, and +20% columns respectively.

Project economics are most sensitive to changes in revenue factors. A 10% change in a revenue factor results in an approximate  $\pm \$26$  million change in the pre-tax NPV at a 7.5% discount rate.

Project economics are also sensitive to operating costs, and to a lesser extent capital costs. A 10% change in operating cost results in an approximate  $\pm \$17$  million change in the pre-tax NPV at a 7.5% discount rate, while a 10% change in capital cost results in an approximate  $\pm \$6$  million change in the pre-tax NPV at a 7.5% discount rate.

Table 22-3 presents a gold price sensitivity analysis on both a pre-tax and after-tax basis.

**TABLE 22-3 GOLD PRICE SENSITIVITY ANALYSIS**  
**Lexam VG Gold Inc. – Lexam VG Project**

| <b>Au Price<br/>(US\$/oz)</b> | <b>Percent Change<br/>From Base Case</b> | <b>Pre-tax NPV<br/>(\$ millions)</b> | <b>Pre-tax IRR<br/>(%)</b> | <b>After-tax NPV<br/>(\$ millions)</b> | <b>After-tax IRR<br/>(%)</b> |
|-------------------------------|--|--------------------------------------|----------------------------|--|------------------------------|
| 1,040                         | -20%                                     | -12                                  | -4%                        | -11                                    | -3%                          |
| 1,170                         | -10%                                     | 15                                   | 19%                        | 13                                     | 18%                          |
| <b>1,300</b>                  | <b>0%</b>                                | <b>41</b>                            | <b>36%</b>                 | <b>33</b>                              | <b>32%</b>                   |
| 1,430                         | 10%                                      | 67                                   | 52%                        | 53                                     | 44%                          |
| 1,560                         | 20%                                      | 93                                   | 67%                        | 73                                     | 55%                          |

Notes:

2. NPV presented at a 7.5% discount rate.

#### **PRODUCTION RATE SENSITIVITY**

In addition to the base case scenario, RPA completed a production rate sensitivity scenario at a gold price of US\$1,400/oz. RPA noted that at US\$1,400/oz (approximately 7.7% greater than the economic analysis base case), in-pit gold mineralization increased significantly. For the sensitivity scenario, RPA assumed a higher production rate, approximately 1.2 Mtpa (3,500 tpd), could be achieved with corresponding lower unit operating costs. Table 22-4 presents the production rate sensitivity comparison.

**TABLE 22-4 PRODUCTION RATE SENSITIVITY ANALYSIS**  
**Lexam VG Gold Inc. – Lexam VG Project**

| <b>Description</b>          | <b>Units</b>         | <b>Base Case<br/>Production Rate</b> | <b>Production Rate<br/>Sensitivity</b> |
|-----------------------------|----------------------|--------------------------------------|--|
| <b>Revenue Factors:</b>     |                      |                                      |  |
| Gold Price                  | US\$/oz              | 1,400                                | 1,400                                  |
| Exchange Rate               | C\$:US\$             | 0.90                                 | 0.90                                   |
| <b>Production Profile:</b>  |                      |                                      |  |
| Mine Life                   | years                | 6.5                                  | 9.2                                    |
| Mineralized Production Rate | tpd                  | 2,000                                | 3,500                                  |
| Stripping Ratio             | Waste:Mineralization | 9.6                                  | 9.9                                    |
| LoM Mineralized Production  | Mt                   | 4.4                                  | 11.1                                   |
| Grade                       | g/t Au               | 2.23                                 | 1.74                                   |
| Recovered Gold              | oz Au                | 293,000                              | 571,000                                |
| <b>Costs:</b>               |                      |                                      |  |
| All-in Sustaining Cost      | US\$/oz              | 875                                  | 944                                    |
| Initial Capital Cost        | C\$ M                | 58                                   | 95                                     |

| Description                    | Units | Base Case<br>Production Rate | Production Rate<br>Sensitivity |
|--------------------------------|-------|------------------------------|--------------------------------|
| Pre-tax Operating Performance: |       |                              |                                |
| Net Pre-tax Cash Flow          | C\$ M | 103                          | 174                            |
| IRR                            | %     | 49%                          | 42%                            |
| NPV at 7.5% Discount Rate      | C\$ M | 61                           | 91                             |
| Payback Period                 | years | 1.5                          | 2.0                            |

RPA notes recovered gold production almost doubles with the production rate sensitivity, resulting in an approximate 70% increase in net pre-tax cash flow and 50% increase in NPV. The IRR has decreased slightly because it is very sensitive to payback period, which has increased by half a year. The increase in all-in sustaining cost is due to the increase in stripping ratio, lower head grade, and increased NPI royalty payments.

RPA notes there are risks to the production rate sensitivity scenario beyond a higher gold price. Additional risks to consider are:

- Mineralized production rate - the models may not contain reasonable mineralized material tonnage per vertical metre to support the higher production rate without incurring significant and detrimental mining dilution.
- Toll processing - at increased production rates fewer toll processing facilities are available limiting options and flexibility.
- Mining profitability – an underground mining trade-off study is required to determine if it is more profitable to mine a block by underground or open pit mining methods.

## 23 ADJACENT PROPERTIES

The Buffalo Ankerite Property lies on the south limb of the Porcupine Syncline. This limb encompasses much of the production from the Timmins Gold camp including the past producers that lie adjacent to the property. The largest producer on the south limb is the Dome Mine, now owned by Goldcorp and referred to as the Porcupine Property, with more than 17 million oz of Au production and the longest producer in the camp, having recently celebrated its 100th anniversary, and being still in production.

Goldcorp provides the Porcupine Property information presented in Tables 23-1, 23-2, and 23-3 on their website. RPA has not verified this information and it is not necessarily indicative of the mineralization at the Project.

**TABLE 23-1 GOLDCORP PORCUPINE OPERATION KEY OPERATIONAL FACTS**

**Lexam VG Gold Inc. – Lexam VG Project**

| Item                              | Data                                  |
|-----------------------------------|---------------------------------------|
| Location                          | Timmins, Ontario                      |
| Workforce (including contractors) | 1,110                                 |
| Estimated mine life (reserves)    | 13 years                              |
| Mining type                       | Underground and Stockpiles            |
| Processing method                 | Milling with Gravity and CIP Recovery |
| Power demand                      | 27 MW                                 |
| Milling/Processing capacity       | 11,000 tpd                            |
| 2014 gold production estimate     | 290,000 - 305,000 oz                  |

**TABLE 23-2 GOLDCORP PORCUPINE OPERATION GOLD RESERVES (AS OF DECEMBER 31, 2013)**

**Lexam VG Gold Inc. – Lexam VG Project**

| Category            | Oz Au     |
|---------------------|-----------|
| Proven              | 980,000   |
| Probable            | 2,030,000 |
| Proven and Probable | 3,010,000 |

**TABLE 23-3 GOLDCORP PORCUPINE OPERATION PRODUCTION SUMMARY**  
**Lexam VG Gold Inc. – Lexam VG Project**

|   | 2013A     | 2012A     | 2011A     |
|---|-----------|-----------|-----------|
| Gold produced (oz)                                | 291,900   | 262,800   | 273,100   |
| Gold sold (oz)                                    | 292,000   | 262,800   | 273,100   |
| Ore milled/processed (t)                          | 4,231,700 | 4,162,400 | 4,109,900 |
| Gold grade (g/t)                                  | 2.28      | 2.12      | 2.26      |
| Gold recovery (%)                                 | 94%       | 93%       | 91%       |
| All-in sustaining costs (US\$/oz)                 | \$1,034   | \$1,146   | N/A       |
| Realized gold price (US\$/oz)                     | \$1,390   | \$1,665   | \$1,587   |
| Throughput (tpd)                                  | 11,590    | 11,560    | 11,420    |
| Mining costs per tonne mined (US\$/t moved)       | \$121     | \$140     | \$126     |
| Processing costs per tonne milled (US\$/t milled) | \$9       | \$12      | \$11      |
| Revenues (US\$ million)                           | \$407     | \$439     | \$434     |
| Depreciation and depletion (US\$ million)         | \$56      | \$51      | \$80      |
| Earnings from operations (US\$ million)           | \$163     | \$88      | \$132     |
| Expenditures on mining interests (US\$ million)   | \$96      | \$111     | \$92      |

Additional adjacent properties are as follows:

- Delnite Mine - In production from 1937 to 1964, when 920,404 oz gold was recovered from 3,847,364 st of ore. Gold bearing veins parallel to the strike of country rocks (carbonatized basalt) dip at 60° or steeper. Ore shoots developed near surface were 200 ft long and five feet wide, developed by two surface shafts and one internal sub-shaft from 2,888 ft to 5,395 ft.
- Aunor Mine - The ore zone is a band of pillow volcanics enclosed in talc-chlorite schist (serpentinite), striking N80°E and dipping 50-80°N. Quartz forms 50% of vein material associated with carbonate, tourmaline and scheelite and small amounts of pyrite and chalcopyrite. Individual veins are about 3.5 ft wide but closely spaced veins and stringers or zones 50-75 ft in width. Production was 2,502,000 oz gold from 8,482,000 st of ore.
- Preston East Dome Mine - Developed by four shafts, production from this property has been 1,539,400 oz gold from 6,284,400 st of ore. Veins are present in two porphyries and stockworks occur in association with porphyries and volcanic rocks. The veins consist of quartz, ankerite and tourmaline. Pyrite, pyrrhotite, sphalerite, galena and native gold are present in the veins. Individual veins are up to six feet wide, 700 ft long and extend for 600 feet in depth.
- Paymaster Mine - The main Paymaster past producing area was not included in the Lexam/Goldcorp Paymaster Joint Venture. The #5 shaft was the source of the majority of the production from the Paymaster property and lies to the east of the Fuller property and immediately north of the Paymaster Joint Venture. The main vein zone is 2,000 ft long with a depth of 3,000 ft. Vein material consists of quartz and carbonate with small amounts of sericite and scheelite. On the 1,200 ft level an ore shoot on the No. 3 vein was 182 ft long, 3.6 ft wide and averaged 0.87 opt Au. The mine was developed principally by the No.5 (main) Shaft to 4,462 ft, the No.2 Winze



2,046 - 4,202 ft and the No.6 winze 4,059 - 6157 ft, 197,294 ft of drifting and 82,577 ft of crosscutting. This mine adjoins the Fuller property to the east and is north of the Paymaster Joint Venture. Paymaster production from 1915 to 1966 was 1,192,000 oz gold from 5,607,000 st of ore.

- Hollinger Mine - Most of the veins are in the basalts adjacent to the porphyries and a few are within the porphyries themselves. The deposit is a composite vein zone 5,000 ft long, 3,000 ft wide and 2,000 ft deep. The average stoping width was about 10 ft which might consist of a vein five feet wide with a zone of stringers and mineralized wall rock adjacent to the vein. Quartz and carbonate are the most abundant vein minerals (chalcopyrite, sphalerite, galena and tellurides). Pyrite occurs in the wall rock adjacent to the veins and gold occurs in veinlets in the darker coloured parts of the vein and fractures in the pyrite adjacent to the vein. The property has numerous shafts and 380 mi of underground lateral workings. Production from this mine was prolific and amounted to 19,354,500 oz gold from 65,890,400 st of ore.

## **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

In RPA's opinion, the Project is a project of merit, with Mineral Resources of sufficient quantity and quality to warrant additional investigation at a prefeasibility level of study (PFS). RPA notes that while the data and analysis of the PEA are favourable, there is no certainty that a PFS or higher level of study will result in a decision to put the Project into production.

RPA's conclusions specific to each area are as follows:

### GEOLOGY AND MINERAL RESOURCES

RPA is not aware of any known environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other relevant factors that could materially affect the current Mineral Resource estimates.

#### ***BUFFALO ANKERITE***

P&E has the following conclusions for Buffalo Ankerite:

- Significant deposits of gold mineralization have been delineated by drilling in the North and South zones on the Buffalo Ankerite Property.
- The procedures for drilling, collection of data, sampling, assaying and check assaying carried out by Dome and Lexam have produced a drill hole database that is acceptable for Mineral Resource estimation.
- Continuity of host structures on the Buffalo Ankerite Property was readily amenable to wireframe constraints. The Mineral Resource estimation was constrained by mineral zone wireframes and used multiple search ellipses mapped to the zone orientations and inverse distance to the power of 3 ( $ID^3$ ) for grade interpolation. Resources are reported net of past production based on modelled stopes and drifts located in the mineral zones.
- No assay data were available for the stopes and drifts, however, construction of vein domains was guided by the location of stopes and exploration drifts, which imply good continuity of the structures hosting the gold-bearing quartz-tourmaline breccias and veining.
- Indicated Resources are outlined where resource blocks were interpolated from two holes in the first (short range) interpolation pass and surface and/or underground drill hole spacing is in the order of 150 ft for the North Zone and 100 ft for the South Zone.
- There is some uncertainty in the widths of modelled stopes since the tonnage attributable to all the modelled stopes exceeds past reported production.

- Surface drill hole deviation results in spatial uncertainty of the zone interpreted from drilling with respect to the stopes and drifts and therefore not all mined/developed material may have been subtracted from the estimated resources. Resources bordering stopes, arising from larger zone widths because of lower cut-off grade, may only be partly recoverable or may not be recoverable.
- In P&E's opinion, the Buffalo Ankerite Property open pit and underground Mineral Resource estimates presented in Tables 25-1 and 25-2 are reasonable. The Buffalo Ankerite North and South Property Mineral Resources are 100% attributable to Lexam; while South-Paymaster is 60% attributable to Lexam.

**TABLE 25-1 OPEN PIT MINERAL RESOURCE ESTIMATE – MAY 22, 2013**  
**Lexam VG Gold Inc. – Buffalo Ankerite Property**

| Zone                | Indicated Resources |                   |                                   |                          | Inferred Resources |                   |                                   |                          |
|---------------------|---------------------|-------------------|-----------------------------------|--------------------------|--------------------|-------------------|-----------------------------------|--------------------------|
|                     | Tons<br>(000)       | Grade<br>(opt Au) | Contained<br>Metal<br>(000 oz Au) | Lexam<br>Ounces<br>(000) | Tons<br>(000)      | Grade<br>(opt Au) | Contained<br>Metal<br>(000 oz Au) | Lexam<br>Ounces<br>(000) |
| North               | 532                 | 0.071             | 37.6                              | 37.6                     | 198                | 0.07              | 13.8                              | 13.8                     |
| South               | 2,622               | 0.075             | 197                               | 197                      | 2,707              | 0.068             | 183                               | 183                      |
| South-<br>Paymaster | 58                  | 0.072             | 4.2                               | 2.5                      | 113                | 0.061             | 6.9                               | 4.1                      |
| <b>Total</b>        | <b>3,212</b>        | <b>0.074</b>      | <b>239</b>                        | <b>237</b>               | <b>3,018</b>       | <b>0.067</b>      | <b>204</b>                        | <b>201</b>               |

Notes:

1. Mineral Resource estimate completed by P&E
2. CIM definitions were followed for Mineral Resources.
3. Mineral Resources are estimated at a cut-off grade of 0.015 opt Au for open pit.
4. Mineral Resources are estimated using a gold price of US\$1,600 per ounce, and a US\$/C\$ exchange rate 1:1.
5. Buffalo Ankerite North Zone Mineral Resources on the Paymaster Property are included in the RPA Paymaster Property Mineral Resource estimate.
6. Numbers may not add due to rounding.

**TABLE 25-2 UNDERGROUND MINERAL RESOURCE ESTIMATE – MAY 22, 2013**  
**Lexam VG Gold Inc. – Buffalo Ankerite Property**

| Zone                | Indicated Resource |                   |                                   |                          | Inferred Resource |                   |                                   |                          |
|---------------------|--------------------|-------------------|-----------------------------------|--------------------------|-------------------|-------------------|-----------------------------------|--------------------------|
|                     | Tons<br>(000)      | Grade<br>(opt Au) | Contained<br>Metal<br>(000 oz Au) | Lexam<br>Ounces<br>(000) | Tons<br>(000)     | Grade<br>(opt Au) | Contained<br>Metal<br>(000 oz Au) | Lexam<br>Ounces<br>(000) |
| North               | 1,779              | 0.149             | 266                               | 266                      | 1,017             | 0.122             | 124                               | 124                      |
| South               | 1,818              | 0.128             | 233                               | 233                      | 2,082             | 0.117             | 243                               | 243                      |
| South-<br>Paymaster | -                  | -                 | -                                 | -                        | 0.1               | 0.1               | 0.02                              | 0.01                     |
| <b>Total</b>        | <b>3,597</b>       | <b>0.139</b>      | <b>499</b>                        | <b>499</b>               | <b>3,099</b>      | <b>0.118</b>      | <b>367</b>                        | <b>367</b>               |

Notes:

1. Mineral Resource estimate completed by P&E
2. CIM definitions were followed for Mineral Resources.
3. Mineral Resources are estimated at a cut-off grade of 0.075 opt Au for underground.
4. Mineral Resources are estimated using a gold price of US\$1,600 per ounce, and a US\$/C\$ exchange rate 1:1.
5. Buffalo Ankerite North Zone Mineral Resources on the Paymaster Property are included in the RPA Paymaster Property Mineral Resource estimate.
6. Numbers may not add due to rounding.

**FULLER**

RPA has the following conclusions for Fuller:

- A significant deposit of gold mineralization has been delineated at the Fuller Property by diamond drilling. Both underground and surface drill holes were included in the Mineral Resource estimate, after RPA discarded a small number of underground drift back samples and sludge test hold samples that are present in the drill hole database.
- The procedures for drilling, collection of data, sampling, assaying and check assaying carried out by Lexam have produced a drill hole database that is acceptable for Mineral Resource estimation.
- Continuity of mineralization on the Fuller Property is not amenable to wireframe constraint. Consequently, the Mineral Resource estimation utilized a dynamic anisotropy interpolation approach to constrain the interpolation and mimic the tightly folded stratigraphy.
- In RPA's opinion, the Fuller Property Mineral Resource estimate presented in Table 25-3 is reasonable.

**TABLE 25-3 MINERAL RESOURCE ESTIMATE – MAY 22, 2013**  
**Lexam VG Gold Inc. - Fuller Property**

| <b>Classification</b>  | <b>Cut-off Grade<br/>(opt Au)</b> | <b>Tonnage<br/>(000 tons)</b> | <b>Grade<br/>(opt Au)</b> | <b>Contained<br/>Metal<br/>(000 oz Au)</b> |
|------------------------|-----------------------------------|-------------------------------|---------------------------|--|
| Open Pit               |                                   |                               |                           |  |
| Indicated              | ≥0.015                            | 5,878                         | 0.049                     | 290  |
| Inferred               | ≥0.015                            | 2,981                         | 0.038                     | 112  |
| Underground            |                                   |                               |                           |  |
| Indicated              | ≥0.075                            | 361                           | 0.168                     | 61   |
| Inferred               | ≥0.075                            | 930                           | 0.145                     | 135  |
| <b>Total Indicated</b> |                                   | <b>6,239</b>                  | <b>0.056</b>              | <b>351</b>                                 |
| <b>Total Inferred</b>  |                                   | <b>3,911</b>                  | <b>0.063</b>              | <b>247</b>                                 |

Notes:

1. CIM definitions were followed for Mineral Resources.
2. Mineral Resources are estimated at a cut-off grade of 0.015 opt Au for open pit and 0.075 opt Au for underground.
3. Mineral Resources are estimated using a gold price of US\$1,600 per ounce, and a US\$/C\$ exchange rate 1:1.
4. Numbers may not add due to rounding.

**PAYMASTER**

RPA has the following conclusions for Paymaster:

- A significant deposit of gold mineralization has been delineated at the Paymaster Property by diamond drilling. RPA discarded data from historical holes drilled in the 1920s and 1950s after a comparison of the assay results to recent drill holes showed low similarity.
- The procedures for drilling, collection of data, sampling, assaying and check assaying carried out by Lexam have produced a drill hole database that is acceptable for Mineral Resource estimation.
- Continuity of mineralization on the Paymaster Property was proved amenable to wireframe constraints.
- The open pit Mineral Resource estimation used inverse distance to the fifth power for grade interpolation. RPA used a higher exponent to interpolate the open pit model to help reduce the lateral interaction between the mineralization and internal waste bands included in some of the open pit resource wireframes.
- In RPA's opinion, the Paymaster Property Mineral Resource estimate presented in Table 25-4 is reasonable. 60% of Paymaster Property Mineral Resources are attributable to Lexam.

**TABLE 25-4 MINERAL RESOURCE ESTIMATE – MAY 22, 2013**  
**Lexam VG Gold Inc. - Paymaster Property**

| <b>Classification</b>  | <b>Cut-off Grade<br/>(opt Au)</b> | <b>Tonnage<br/>(000 tons)</b> | <b>Grade<br/>(opt Au)</b> | <b>Contained<br/>Metal<br/>(000 oz Au)</b> |
|------------------------|-----------------------------------|-------------------------------|---------------------------|--|
| Open Pit               |                                   |                               |                           |  |
| Indicated              | ≥0.015                            | 5,135                         | 0.047                     | 242  |
| Inferred               | ≥0.015                            | 1,542                         | 0.047                     | 72   |
| Underground            |                                   |                               |                           |  |
| Indicated              | -                                 | -                             | -                         | -  |
| Inferred               | ≥0.075                            | 239                           | 0.179                     | 43   |
| <b>Total Indicated</b> |                                   | <b>5,135</b>                  | <b>0.047</b>              | <b>242</b>                                 |
| <b>Total Inferred</b>  |                                   | <b>1,781</b>                  | <b>0.065</b>              | <b>115</b>                                 |

Notes:

1. CIM definitions were followed for Mineral Resources.
2. Mineral Resources are estimated at a cut-off grade of 0.015 opt Au for open pit and 0.075 opt Au for underground.
3. Mineral Resources are estimated using a gold price of US\$1,600 per ounce, and a US\$/C\$ exchange rate 1:1.
4. A minimum mining width of approximately 20 ft was used for open pit and approximately 5 ft for underground.
5. Numbers may not add due to rounding.

**DAVIDSON TISDALE**

P&E has the following conclusions for Davidson Tisdale:

- The Davidson Tisdale gold deposit has been delineated by substantial historical exploration and diamond drill programs.
- The procedures for drilling, collection of data, sampling, assaying and check assaying carried out by Dome and Lexam have produced a drill hole database that is acceptable for Mineral Resource estimation.
- Continuity of host structures on the Davidson Tisdale Property was readily amenable to wireframe constraints. The Mineral Resource estimation was constrained by mineral zone wireframes and used multiple search ellipses mapped to the zone orientations and Ordinary Kriging for grade interpolation.
- In P&E's opinion, the Davidson Tisdale Property Mineral Resource estimate presented in Table 25-5 is reasonable. 68.5% of Davidson Tisdale Property Mineral Resources are attributable to Lexam.



**TABLE 25-5 MINERAL RESOURCE ESTIMATE – APRIL 2, 2013**  
**Lexam VG Gold Inc. – Davidson Tisdale Property**

|              | <b>Cut-Off Grade<br/>(Au g/t)</b> | <b>Classification</b> | <b>Tonnes</b>  | <b>Grade<br/>(Au g/t)</b> | <b>Contained Metal<br/>(oz Au)</b> | <b>68.5% Attributable<br/>oz to Lexam</b> |
|--------------|-----------------------------------|-----------------------|----------------|---------------------------|------------------------------------|---|
| In-Pit       | 0.5                               | Measured              | 452,000        | 2.44                      | 35,500                             | 24,300                                    |
|              | 0.5                               | Indicated             | 173,000        | 2.43                      | 13,500                             | 9,300                                     |
|              | <b>0.5</b>                        | <b>M+I Total</b>      | <b>625,000</b> | <b>2.44</b>               | <b>49,000</b>                      | <b>33,600</b>                             |
| UG           | 2.6                               | Measured              | 18,000         | 6.64                      | 3,800                              | 2,600                                     |
|              | 2.6                               | Indicated             | 41,000         | 4.91                      | 6,500                              | 4,400                                     |
|              | <b>2.6</b>                        | <b>M+I Total</b>      | <b>59,000</b>  | <b>5.43</b>               | <b>10,300</b>                      | <b>7,000</b>                              |
|              | 2.6                               | Inferred              | 71,000         | 4.20                      | 9,600                              | 6,600                                     |
| <b>Total</b> | <b>0.5+2.6</b>                    | <b>Measured</b>       | <b>470,000</b> | <b>2.60</b>               | <b>39,300</b>                      | <b>26,900</b>                             |
|              | <b>0.5+2.6</b>                    | <b>Indicated</b>      | <b>214,000</b> | <b>2.90</b>               | <b>20,000</b>                      | <b>13,700</b>                             |
|              | <b>0.5+2.6</b>                    | <b>M+I Total</b>      | <b>684,000</b> | <b>2.70</b>               | <b>59,300</b>                      | <b>40,600</b>                             |
|              | <b>2.6</b>                        | <b>Inferred</b>       | <b>71,000</b>  | <b>4.20</b>               | <b>9,600</b>                       | <b>6,600</b>                              |

Notes:

1. Mineral Resources which are not Mineral Reserves do not have demonstrated economic viability. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.
2. The quantity and grade of reported Inferred Resources in this estimation are uncertain in nature and there has been insufficient exploration to define these Inferred Resources as an Indicated or Measured mineral resource and it is uncertain if further exploration will result in upgrading them to an Indicated or Measured Mineral Resource category.
3. The Mineral Resources in this report were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines prepared by the CIM Standing Committee on Reserve Definitions and adopted by the CIM Council.
4. The historical mined tonnage was not depleted as the mined tonnage was insignificant.
5. The Davidson Tisdale Property is a joint venture between Lexam as operator (68.5%) and SGX Resources Inc. (31.5%). The contained Au oz reflects the 68.5% of the resource attributable to Lexam.

## MINING AND MINERAL RESERVES

RPA has the following conclusions:

- There are no Mineral Reserves estimated for the Project.
- A relatively simple open pit mining plan has been developed for the Project, which mines a series of open pits in sequence, with subsequent backfilling of previously mined pits.
- Open pit mining will be conducted by both Lexam and a mining contractor. All mineralized production will be direct shipped for toll processing to a local facility. The toll processing scenario presents a relatively low capital cost path to production. Additional potential for underground mineralized production is high considering the history of the area, however, the intent of the PEA was to focus solely on Mineral Resources with reasonable prospects for economic extraction by open pit mining.

- Proposed mineralized production is sourced from five pit areas: Buffalo Ankerite South, Davidson Tisdale, Buffalo Ankerite North, Paymaster, and Fuller. All but Davidson Tisdale makeup the main cluster.
- The mineralized production schedule consists of 4.4 Mt of Measured, Indicated, and Inferred Mineral Resources, modified for mining dilution and extraction. Approximately 80% of the contained gold ounces are classified as Measured or Indicated. The overall strip ratio is 9.6 units of waste to each unit of mineralized production.
- 6.5 years of mineralized production is identified at a production rate of 0.7 Mtpa (approximately 2,000 tpd). During this time, approximately 318,000 oz of gold are direct shipped to a toll processing facility. Over 95% of contained gold production is from the main cluster. Processing is estimated to recover 293,000 oz of gold, for an overall average gold recovery of 92%.
- A re-settlement program is required for numerous residences within and adjacent to the Buffalo Ankerite South proposed mining area.
- A short embankment is required to the north of the Paymaster proposed mining area to control water inflow from a shallow pond.
- Water from a shallow tailings pond at the eastern end of the proposed Fuller mining area needs to be re-located for storage or treated for discharge as required.
- RPA has assumed all waste material generated during the proposed operations is inert and will not require special handling, storage, or long term collection and monitoring of drainage.

## **MINERAL PROCESSING AND RECOVERY METHODS**

RPA has the following conclusions:

- The Timmins area is an active mining area that has been producing gold for over 100 years. Historical data and recent metallurgical test data indicate that the proposed mineralized production would be amenable to the same processing methods that have been used in the area historically. Thus RPA has assumed that the proposed mineralized production would be viewed as an attractive feed stock for toll processing.

## **ENVIRONMENT, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT**

RPA has the following conclusions:

- Several environmental studies and documents have been previously completed for the Properties that make up the Project. These historical studies will provide useful baseline information, however, additional studies will be required in order to develop the currently proposed Project. Considering a federal environmental assessment, closure plan, and permit requirements, the process to approve the Project will likely take several years.

## 26 RECOMMENDATIONS

The Project hosts significant gold mineralization, which merits additional exploration, however, the primary focus of the recommendations and proposed budgets are on advancing the findings of the PEA through a PFS. Table 26-1 presents the proposed budget for the Project, as prepared by Lexam. RPA concurs with Lexam's budget.

**TABLE 26-1 PROPOSED BUDGET**  
**Lexam VG Gold Inc. – Lexam VG Project**

| <b>Item</b>                          | <b>C\$</b>       |
|--------------------------------------|------------------|
| <b>Additional Exploration (2014)</b> |                  |
| Drilling:                            |                  |
| Buffalo Ankerite South               | 600,000          |
| Buffalo Ankerite North               | 300,000          |
| Paymaster                            | 300,000          |
| Fuller                               | 200,000          |
| Davidson Tisdale                     | 100,000          |
| <b>Sub-total</b>                     | <b>1,500,000</b> |
| Admin (15%)                          | 225,000          |
| <b>TOTAL</b>                         | <b>1,725,000</b> |
| <b>PFS (2014-2015)</b>               |                  |
| Geotechnical Investigation           | 500,000          |
| Metallurgical Investigation          | 300,000          |
| Resource Model Updates               | 400,000          |
| Underground Scoping Study            | 100,000          |
| Permitting/Reclamation               | 100,000          |
| Prefeasibility Study                 | 300,000          |
| <b>Sub-total</b>                     | <b>1,700,000</b> |
| Admin (15%)                          | 255,000          |
| <b>TOTAL</b>                         | <b>1,955,000</b> |

Recommendations specific to each area of the Project are:

### GEOLOGY AND MINERAL RESOURCES

#### **BUFFALO ANKERITE**

P&E has the following recommendations:

- Lexam should tie the mine grid into the Universal Transverse Mercator (UTM) NAD 83 grid system and convert all units in the database to metric.

- P&E identified a number of instances during assay verification wherein resource assays in the drill hole database were much lower or zero with respect to laboratory certificates. P&E recommends investigating these discrepancies with the objective of incorporating correct values in future resource estimation updates.
- P&E identified a number of drill holes for which implausible deviation is recorded in the down hole surveys. Lexam should review available documentation for these surveys and correct or delete problematic azimuth or dip readings.
- Begin a program of regular submission of blank material with drill core samples.
- Use certified commercial standards, with certified gold values to monitor the laboratory performance. Include at least three different grades of CRMs into the sampling stream: low grade (near cut-off), average grade, and high grade.
- Incorporate duplicate samples (field, pulp and coarse reject material) into the Project QA/QC protocol for drill programs.
- Implement a QA monitoring system used to detect failed batches, and in turn, identify sample batches for reanalysis.
- The widths of stopes modelled may be over stated resulting in excess volume for past production and development being removed from resources. Lexam should review the stope modelling to confirm if this is the case and remodel problematic openings where necessary.
- Resource classification can be improved with infill drilling along the more widely spaced drilling areas. A spacing of 150 ft by 150 ft (50 m x 50 m) in the North Zone and 100 ft by 100 ft (30 m x 30 m) in the South Zone is recommended.
- Geotechnical data should be routinely collected when logging drill core.
- Bulk density determinations should be routinely carried out in mineralization and waste in any future drilling.

**FULLER**

RPA has the following recommendations for the Fuller Property:

- Mineral Resources may be increased by investigating gold mineralization located on the periphery of the current geological model, particularly in areas west of the Fuller Syncline. This would improve resource classification by upgrading areas not classified to Inferred and Inferred blocks to Indicated.
- Furthermore, resource classification can be improved with infill drilling along the more widely spaced drilling areas. Within the open pit resource, a spacing of 100 ft by 100 ft along the east and west limbs of the Fuller Syncline is recommended.
- Routinely collect geotechnical data when logging drill core.
- Begin a program of regular submission of blank material with drill core samples.

- Use certified commercial standards, with certified gold values to monitor the laboratory performance. Include at least three different grades of CRMs into the sampling stream: low grade (near cut-off), average grade, and high grade.
- Incorporate duplicate samples (field, pulp, and coarse reject material) into the Project QA/QC protocol for drill programs.
- Implement a QA monitoring system used to detect failed batches, and in turn, identify sample batches for re-analysis.
- Use an accredited secondary laboratory to assess the assay accuracy of the primary laboratory.
- Update and supplement the lithological model with additional bulk density determinations throughout the Fuller deposit in order to decrease density uncertainties for mineralization and waste rock.

#### **PAYMASTER**

RPA has the following recommendations for the Paymaster Property:

- Future refinements could include adding more search domains to better align the grade interpolation in some areas.
- Begin a program of regular submission of blank material with regular drill core samples.
- Use certified commercial standards, with certified gold values to monitor the laboratory performance. Include at least three different grades of CRMs into the sampling stream: low grade (near cut-off), average grade, and high grade.
- Incorporate duplicate samples (field, pulp and coarse reject material) into the Project QA/QC protocol for drill programs.
- Implement a QA monitoring system used to detect failed batches, and in turn, identify sample batches for reanalysis.
- Use an accredited secondary laboratory to assess the assay accuracy of the primary laboratory.
- Routinely collect geotechnical data when logging drill core.
- Update and supplement the lithological model with additional bulk density determinations throughout the Paymaster deposit in order to decrease density uncertainties for mineralization and waste rock.

#### **MINING AND MINERAL RESERVES**

RPA makes the following recommendations for advancement of the Project to the PFS stage:

- Complete drilling as required to upgrade in-pit mineralization to a Measured classification at the Buffalo Ankerite South pits.
- Complete drilling as required to upgrade Inferred in-pit mineralization to at least Indicated classification for Buffalo Ankerite North, Paymaster, and Fuller pits.
- Complete comprehensive geotechnical studies for the open pits to develop recommendations for overall pit slope angles, bench design criteria, and pumping requirements. Studies are likely to include:
  - Diamond drilling of oriented geotechnical core holes and packer testing for investigation of geomechanical and hydrogeological rock mass conditions,
  - Televiewer surveys in existing exploration drill holes to collect additional structural data, and
  - Laboratory rock testing for Brazilian tensile strength, uniaxial compressive strength, and triaxial shear strength for cohesion and angle of internal friction.
- Confirm depth and properties of overburden, tailings, and waste rock piles over open pit footprints for pit slope design.
- Obtain budgetary quotes from mining contractors to perform the proposed mining operations.
- Complete scoping studies on underground mining potential to determine if there are reasonable prospects for economic extraction.
- Complete a higher resolution (bench scale) review of mining factors, which accounts for mining factors specifically at the hangingwall and footwall contacts, internal dilution, and isolated blocks.
- Prioritize investigative studies for the Buffalo Ankerite South pits as this is the initial production target.
- Review proposed haul truck size and impact on ramp widths and waste stripping.
- Investigate requirements of the surface water management plan for handling existing ponded waters within proposed pit footprints.
- Investigate the potential for metal leaching and acid rock drainage from the waste materials generated over the LoM.

## **MINERAL PROCESSING AND RECOVERY METHODS**

RPA makes the following recommendations with regards to metallurgy and processing:

- Complete additional sampling and metallurgical testwork to confirm that the material to be mined in all of the open pits has the same metallurgical response as the samples that have been tested.
- Begin discussions with potential toll processing facilities in order to determine interest and available capacity for proposed Lexam mineralized production.

## **ENVIRONMENT, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT**

RPA makes the following recommendations:

- Initiate the required studies and activities for the Environmental Assessment, closure plan, and other required environmental approvals (Ontario Environmental Compliance Approval, Ontario Permit to take Water, Work Approval from Ontario Ministry of Natural Resources, Waste Generator Registration, Notice of Project, Approval under Explosives Act if required, Work Permit Public Lands Act, site plan control agreement).



## 27 REFERENCES

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## 28 DATE AND SIGNATURE PAGE

This report titled “Technical Report on the Preliminary Economic Assessment of the Buffalo Ankerite, Fuller, Paymaster, and Davidson Tisdale Gold Deposits, Northeastern Ontario, Canada” and dated June 5, 2014, was prepared and signed by the following authors:

**(Signed & Sealed) “Glen Ehasoo”**

Dated at Vancouver, BC  
June 5, 2014

Glen Ehasoo, P.Eng.  
Senior Mining Engineer, RPA

**(Signed & Sealed) “Katharine M. Masun”**

Dated at Toronto, ON  
June 5, 2014

Katharine M. Masun, M.Sc., P.Geo.  
Senior Geologist, RPA

**(Signed & Sealed) “Tudorel Ciuculescu”**

Dated at Toronto, ON  
June 5, 2014

Tudorel Ciuculescu, M.Sc., P.Geo.  
Senior Geologist, RPA

**(Signed & Sealed) “Kathleen Ann Altman”**

Dated at Lakewood, CO  
June 5, 2014

Kathleen Ann Altman, Ph.D., P.E.  
Principal Metallurgist, RPA

**(Signed & Sealed) “Wayne D. Ewert”**

Dated at Brampton, ON  
June 5, 2014

Wayne D. Ewert, Ph.D., P.Geo.  
Past Principal of P&E

**(Signed & Sealed) “Richard E. Routledge”**

Dated at Brampton, ON  
June 5, 2014

Richard E. Routledge, M.Sc., P.Geo.  
Consulting Geologist, P&E

**(Signed & Sealed) “Tracy J. Armstrong”**

Dated at Magog, QC  
June 5, 2014

Tracy J. Armstrong, P.Geo.  
Consulting Geologist, P&E

**(Signed & Sealed) “Antoine R. Yassa”**

Dated at Rouyn-Noranda, QC  
June 5, 2014

Antoine R. Yassa, P.Geo.  
Consulting Geologist, P&E

**(Signed & Sealed) “Yungang Wu”**

Dated at Brampton, ON  
June 5, 2014

Yungang Wu, P.Geo.  
Consulting Geologist, P&E

**(Signed & Sealed) “Eugene J. Puritch”**

Dated at Brampton, ON  
June 5, 2014

Eugene J. Puritch, P.Eng.  
Mining Consultant, President, P.E.

**(Signed & Sealed) “Jeffery C. Martin”**

Dated at Toronto, ON  
June 5, 2014

Jeffrey C. Martin, P.Eng.  
Senior Geological/Environmental Engineer, SENES

## 29 CERTIFICATE OF QUALIFIED PERSON

### GLEN EHASOO

I, Glen Ehasoo, P.Eng., as an author of this report entitled "Technical Report on the Preliminary Economic Assessment of the Buffalo Ankerite, Fuller, Paymaster, and Davidson Tisdale Gold Deposits, Northeastern Ontario, Canada" prepared for Lexam VG Gold Inc. and dated June 5, 2014, do hereby certify that:

1. I am a Senior Mining Engineer with Roscoe Postle Associates Inc. of Suite 388, 1130 West Pender Street, Vancouver, BC, V6E 4A4.
2. I am a graduate of the University of British Columbia, Vancouver, British Columbia, in 1998 with a Bachelor of Applied Science in Mining & Mineral Processing Engineering.
3. I am registered as a Professional Engineer in the Province of British Columbia (Reg. #34935). I have worked as a mining engineer for a total of 15 years since my graduation. My relevant experience for the purpose of the Technical Report is:
  - Review and report as a consultant on open pit mining projects in Canada and around the world for due diligence and regulatory requirements
  - Open pit mine planning and cost estimation
  - Project cash flow modelling and economic analysis
4. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
5. I visited the Project on October 8 and 9, 2013.
6. I am responsible for Sections 15, 16, 18, 19, 21, 22, and 24 and contributed to Sections 1 to 5, 25, 26, and 27 of the Technical Report.
7. I am independent of the Issuer applying the test set out in Section 1.5 of NI 43-101.
8. I have had no prior involvement with the property that is the subject of the Technical Report.
9. I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.

10. To the best of my knowledge, information, and belief, the Sections for which I am responsible in the Technical Report contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 5<sup>th</sup> day of June, 2014

**(Signed & Sealed) “Glen Ehasoo”**

Glen Ehasoo, P.Eng.

**KATHARINE M. MASUN**

I, Katharine M. Masun, P.Geo., as an author of this report entitled "Technical Report on the Preliminary Economic Assessment of the Buffalo Ankerite, Fuller, Paymaster, and Davidson Tisdale Gold Deposits, Northeastern Ontario, Canada" prepared for Lexam VG Gold Inc. and dated June 5, 2014, do hereby certify that:

1. I am a Senior Geologist with Roscoe Postle Associates Inc. of Suite 501, 55 University Ave Toronto, ON, M5J 2H7.
2. I am a graduate of Lakehead University, Thunder Bay, Ontario, Canada, in 1997 with an Honours Bachelor of Science degree in Geology and in 1999 with a Master of Science degree in Geology. I am also a graduate Ryerson University in Toronto, Ontario, Canada, in 2010 with a Master of Spatial Analysis.
3. I am registered as a Professional Geologist in the Province of Ontario (Reg. #1583). I have worked as a geologist for a total of 15 years since my graduation. My relevant experience for the purpose of the Technical Report is:
  - Review and report as a professional geologist on many mining and exploration projects around the world for due diligence and regulatory requirements
  - Project Geologist on numerous field and drilling programs in North America, South America, Asia, and Australia
  - Experience with Gemcom block modelling
  - Preparation of Mineral Resource estimates
4. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
5. I visited the Project on November 20 and 21, 2012.
6. I am responsible for portions of Sections 1 to 12, 14 (Fuller Mineral Resource estimate), 25, 26, 27, and 30 of the Technical Report.
7. I am independent of the Issuer applying the test set out in Section 1.5 of NI 43-101.
8. I was an author of a Technical Report on the property that is the subject of this Technical Report, entitled "Technical Report and Updated Resource Estimate on the Buffalo Ankerite, Fuller, Paymaster, and Davidson Tisdale Gold Deposits Porcupine Mining Division North-Eastern Ontario, Canada" dated June 21, 2013.
9. I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.



10. To the best of my knowledge, information, and belief, the Sections for which I am responsible in the Technical Report contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 5<sup>th</sup> day of June, 2014

**(Signed & Sealed) “*Katharine M. Masun*”**

Katharine M. Masun, M.Sc., MSA, P.Geo.

**TUDOREL CIUCULESCU**

I, Tudorel Ciuculescu, M.Sc., P.Geo., as an author of this report entitled "Technical Report on the Preliminary Economic Assessment of the Buffalo Ankerite, Fuller, Paymaster, and Davidson Tisdale Gold Deposits, Northeastern Ontario, Canada" prepared for Lexam VG Gold Inc. and dated June 5, 2014, do hereby certify that:

1. I am Senior Geologist with Roscoe Postle Associates Inc. of Suite 501, 55 University Ave Toronto, ON, M5J 2H7.
2. I am a graduate of University of Bucharest with a B.Sc. degree in Geology in 2000 and University of Toronto with a M.Sc. degree in Geology in 2003.
3. I am registered as a Professional Geologist in the Province of Ontario (Reg. #1882). I have worked as a geologist for a total of 13 years since my graduation. My relevant experience for the purpose of the Technical Report is:
  - Preparation of Mineral Resource estimates.
  - Over 5 years of exploration experience in Canada and Chile.
4. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
5. I visited the Project on November 29 and 30, 2012.
6. I am responsible for portions of Sections 1, 11, 12, 14 (Paymaster Mineral Resource estimate), and 30 of the Technical Report.
7. I am independent of the Issuer applying the test set out in Section 1.5 of NI 43-101.
8. I was an author of a Technical Report on the property that is the subject of this Technical Report, entitled "Technical Report and Updated Resource Estimate on the Buffalo Ankerite, Fuller, Paymaster, and Davidson Tisdale Gold Deposits Porcupine Mining Division North-Eastern Ontario, Canada" dated June 21, 2013.
9. I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.

10. To the best of my knowledge, information, and belief, the Sections for which I am responsible in the Technical Report contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 5<sup>th</sup> day of June, 2014

**(Signed & Sealed) “*Tudorel Ciuculescu*”**

Tudorel Ciuculescu, M.Sc., P.Geo.

**KATHLEEN ANN ALTMAN**

I Kathleen Ann Altman, P.E., as an author of this report entitled "Technical Report on the Preliminary Economic Assessment of the Buffalo Ankerite, Fuller, Paymaster, and Davidson Tisdale Gold Deposits, Northeastern Ontario, Canada" prepared for Lexam VG Gold Inc. and dated June 5, 2014, do hereby certify that:

1. I am Principal Metallurgist with RPA (USA) Ltd. of Suite 505, 143 Union Boulevard, Lakewood, Co., USA 80228.
2. I am a graduate of the Colorado School of Mines in 1980 with a B.S. in Metallurgical Engineering. I am a graduate of the University of Nevada, Reno Mackay School of Mines with an M.S. in Metallurgical Engineering in 1994 and a Ph.D. in Metallurgical Engineering in 1999.
3. I am registered as a Professional Engineer in the State of Colorado (Reg. #37556) and a Qualified Professional Member of the Mining and Metallurgical Society of America (Member #01321QP). I have worked as a metallurgical engineer for a total of 33 years since my graduation. My relevant experience for the purpose of the Technical Report is:
  - Review and report as a metallurgical consultant on numerous mining operations and projects around the world for due diligence and regulatory requirements.
  - I have worked for operating companies, including the Climax Molybdenum Company, Barrick Goldstrike, and FMC Gold in a series of positions of increasing responsibility.
  - I have worked as a consulting engineer on mining projects for approximately 15 years in roles such a process engineer, process manager, project engineer, area manager, study manager, and project manager. Projects have included scoping, prefeasibility and feasibility studies, basic engineering, detailed engineering and start-up and commissioning of new projects.
  - I was the Newmont Professor for Extractive Mineral Process Engineering in the Mining Engineering Department of the Mackay School of Earth Sciences and Engineering at the University of Nevada, Reno from 2005 to 2009.
4. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
5. I have not visited the Project.
6. I am responsible for Sections 13 and 17, and contributed to Sections 1, 23, 25, 26, and 27 of the Technical Report.
7. I am independent of the Issuer applying the test set out in Section 1.5 of NI 43-101.
8. I have had no prior involvement with the property that is the subject of the Technical Report.
9. I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.

10. To the best of my knowledge, information, and belief, the Sections for which I am responsible in the Technical Report contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 5<sup>th</sup> day of June, 2014

**(Signed & Sealed) “Kathleen Ann Altman”**

Kathleen Ann Altman, P.E.

**WAYNE D. EWERT, P.GEO.**

I, Wayne D. Ewert, P. Geo., residing at 10 Langford Court, Brampton, Ontario, L6W 4K4, do hereby certify that:

1. I am a principal of P & E Mining Consultants Inc.
2. This certificate applies to the technical report titled "Technical Report on the Preliminary Economic Assessment of the Buffalo Ankerite, Fuller, Paymaster, and Davidson Tisdale Gold Deposits, Northeastern Ontario, Canada" (the "Technical Report"), with a signing date of June 5, 2014.
3. I graduated with an Honours Bachelor of Science degree in Geology from the University of Waterloo in 1970 and with a PhD degree in Geology from Carleton University in 1977. I have worked as a geologist for a total of 42 years since obtaining my B.Sc. degree. I am a P. Geo., registered in the Province of Saskatchewan (APEGGS No. 16217), the Province of British Columbia (APEGBC No. 18965), and the Province of Ontario (APGO No. 0866).

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.

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

- Principal, P&E Mining Consultants Inc., 2004 – Present
  - Vice-President, A.C.A. Howe International Limited, 1992 – 2004
  - Canadian Manager, New Projects, Gold Fields Canadian Mining Limited, 1987– 1992
  - Regional Manager, Gold Fields Canadian Mining Limited, 1986 – 1987
  - Supervising Project Geologist, Getty Mines Ltd., 1982 – 1986
  - Supervising Project Geologist III, Cominco Ltd., 1976 – 1982
4. I have not visited the Property that is the subject of this Technical Report.
  5. I am responsible for authoring Sections 4-10 and co-authoring Sections 1, 23, 25 and 26 of this Technical Report along with those sections of the Summary pertaining thereto.
  6. I am independent of the Issuer applying all of the tests in section 1.5 of National Instrument 43-101.
  7. I have have had prior involvement with the Properties that are the subject of this report. The nature of my involvement is as co-author of a Technical Report titled "Technical Report and Updated Resource Estimate on the Buffalo Ankerite, Fuller, Paymaster, and Davidson Tisdale Gold Deposits Porcupine Mining Division North-Eastern Ontario, Canada" (the "Technical Report"), with an effective date of June 1, 2013.
  8. I have read NI 43-101 and Form 43-101F1 and the Technical Report has been prepared in compliance therewith.

10. As of the date of this certificate, 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.

Signed Date: June 5, 2014

**(Signed & Sealed) "Wayne D. Ewert"**

Dr. Wayne D. Ewert, P.Geol.



**RICHARD E. ROUTLEDGE, P.GEO.**

I, Richard E. Routledge, P.Geo., residing at 82 Oriole Drive, Holland Landing, Ontario, L9N 1H3, do hereby certify that:

1. I am an independent Consulting Geologist who has been contracted by P&E Mining Consultants Inc.
2. This certificate applies to the technical report titled "Technical Report on the Preliminary Economic Assessment of the Buffalo Ankerite, Fuller, Paymaster, and Davidson Tisdale Gold Deposits, Northeastern Ontario, Canada" (the "Technical Report"), with a signing date of June 5, 2014.
3. I graduated with a Bachelor of Science degree, Major in Geology, from Sir George Williams (Concordia) University in 1971 and with a Masters degree in Applied Exploration Geology from McGill University in 1973. I have worked as a geologist for a total of 38 years since post-graduation. I am a Professional Geologist registered in the Province of Ontario (APGO No. 1354) and licensed by the Northwest Territories (NAPEGG No. L744).

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. My relevant experience for the purpose of the Technical Report is:

- Independent Consulting Geologist, 2011 – Present
  - Roscoe Postle Associates Inc., Consulting Geologist, 1998 – 2011
  - Independent Consulting Geologist, 1994 – 1997
  - Vice President Exploration, Greater Lenora Resources Corp., 1993 – 1994
  - Teck Explorations Ltd, Evaluations and Mineral Commodities Geologist, 1985 – 1992
  - Derry, Michener, Booth & Wahl, Exploration and Consulting Geologist., 1973 – 1985
4. I have not visited the property that is the subject of this Technical Report.
  5. I am responsible for co-authoring Sections 1, 14, 25 and 26 of the Technical Report along with those sections of the Summary pertaining thereto.
  6. I am independent of the Issuer applying the test in Section 1.5 of NI 43-101.
  7. I have had prior involvement with the Properties that are the subject of this report. The nature of my involvement is as co-author of a Technical Report titled "Technical Report and Updated Resource Estimate on the Buffalo Ankerite, Fuller, Paymaster, and Davidson Tisdale Gold Deposits Porcupine Mining Division North-Eastern Ontario, Canada" (the "Technical Report"), with an effective date of June 1, 2013.
  8. I have read NI 43-101 and Form 43-101F1 and the Technical Report has been prepared in compliance therewith.

9. As of the date of this certificate, 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.

Signed Date: June 5, 2014

**(Signed & Sealed) “Richard E. Routledge”**

Richard E. Routledge, P.Geo.

**TRACY J. ARMSTRONG, P.GEO.**

I, Tracy J. Armstrong, residing at 2007 Chemin Georgeville, res. 22, Magog, QC J1X 0M8, do hereby certify that:

1. I am an independent geological consultant contracted by P&E Mining Consultants Inc. and have worked as a geologist continuously since my graduation from university in 1982.
2. This certificate applies to the technical report titled "Technical Report on the Preliminary Economic Assessment of the Buffalo Ankerite, Fuller, Paymaster, and Davidson Tisdale Gold Deposits, Northeastern Ontario, Canada" (the "Technical Report"), with a signing date of June 5, 2014.
3. I am a graduate of Queen's University at Kingston, Ontario with a B.Sc. (HONS) in Geological Sciences (1982). I am a geological consultant currently licensed by the Order of Geologists of Québec (License 566), the Association of Professional Geoscientists of Ontario (License 1204) and the Association of Professional Engineers and Geoscientists of British Columbia, (Licence No. 34720).

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 and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101. This report is based on my personal review of information provided by the Issuer and on discussions with the Issuer's representatives. My relevant experience for the purpose of the Technical Report is:

- Underground production geologist, Agnico-Eagle Laronde Mine .....1988-1993
- Exploration geologist, Laronde Mine.....1993-1995
- Exploration coordinator, Placer Dome .....1995-1997
- Senior Exploration Geologist, Barrick Exploration.....1997-1998
- Exploration Manager, McWatters Mining .....1998-2003
- Chief Geologist Sigma Mine .....2003
- Consulting Geologist .....2003-to present

4. I have not visited the Property that is the subject of this Technical Report.
5. I am responsible for co-authoring of Sections 1, 11 and 12 of this Technical Report along with those sections of the Summary pertaining thereto.
6. I am independent of issuer applying the test in Section 1.5 of NI 43-101.
7. I have had prior involvement with the Properties that are the subject of this report. The nature of my involvement is as co-author of a Technical Report titled "Technical Report and Updated Resource Estimate on the Buffalo Ankerite, Fuller, Paymaster, and Davidson Tisdale Gold Deposits Porcupine Mining Division North-Eastern Ontario, Canada" (the "Technical Report"), with an effective date of June 1, 2013.
8. I have read NI 43-101 and Form 43-101F1 and the Technical Report has been prepared in compliance therewith.

9. As of the date of this certificate, 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.

Signing Date: June 5, 2014

**(Signed & Sealed) “Tracy J. Armstrong”**

Tracy J. Armstrong, P.Geo.

**ANTOINE R. YASSA, P.GEO.**

I, Antoine R. Yassa, P.Geo. residing at 3602 Rang des Cavaliers Rouyn-Noranda, Qc. J0Z 1Y2, do hereby certify that:

1. I am an independent geological consultant contracted by P&E Mining Consultants Inc.
2. This certificate applies to the technical report titled "Technical Report on the Preliminary Economic Assessment of the Buffalo Ankerite, Fuller, Paymaster, and Davidson Tisdale Gold Deposits, Northeastern Ontario, Canada" (the "Technical Report"), with a signing date of June 5, 2014.
3. I am a graduate of Ottawa University at Ottawa, Ontario with a B.Sc (HONS) in Geological Sciences (1977) with more than 33 years of experience as a geologist. I am a geological consultant currently licensed by the Order of Geologists of Québec (License No 224) and by the Association of Professional Geoscientist of Ontario (License No 1890);

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;

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

- Minex Geologist (Val d'Or), 3D Modeling (Timmins), Placer Dome, 1993-1995;
  - Database Manager, Senior Geologist, West Africa, PDX, 1996-1998;
  - Senior Geologist, Database Manager, McWatters Mine, 1998-2000;
  - Database Manager, Gemcom modeling and Resources Evaluation (Kiena Mine), 2001-2003;
  - Database Manager and Resources Evaluation at Julietta Mine, Bema Gold Corp., 2003-2006;
  - Consulting Geologist, 2006-present;
4. I have visited the Buffalo Ankerite and Davidson Tisdale Properties on November 3, 4, and 6, 2012.
  5. I am responsible for co-authoring Sections 1, 12 and 14 of this Technical Report along with those sections of the Summary pertaining thereto.
  6. I am independent of the Issuer applying the test in Section 1.5 of NI 43-101.
  7. I have had prior involvement with the Properties that are the subject of this report. The nature of my involvement is as co-author of a Technical Report titled "Technical Report and Updated Resource Estimate on the Buffalo Ankerite, Fuller, Paymaster, and Davidson Tisdale Gold Deposits Porcupine Mining Division North-Eastern Ontario, Canada" (the "Technical Report"), with an effective date of June 1, 2013.
  8. I have read NI 43-101 and Form 43-101F1 and the Technical Report has been prepared in compliance therewith.

9. As of the date of this certificate, 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.

Signing Date: June 5<sup>th</sup>, 2014

**(Signed & Sealed) “Antoine R. Yassa”**

Antoine R. Yassa, P.Geo.

**YUNGANG WU, P.GEO.**

I, Yungang Wu, P. Geo., residing at 4334 Trail Blazer Way, Mississauga, Ontario, L5R 0C3, do hereby certify that:

1. I am an independent consulting geologist contracted by P&E Mining Consultants Inc.
2. This certificate applies to the technical report titled "Technical Report on the Preliminary Economic Assessment of the Buffalo Ankerite, Fuller, Paymaster, and Davidson Tisdale Gold Deposits, Northeastern Ontario, Canada" (the "Technical Report"), with a signing date of June 5, 2014.
3. I am a graduate of Jilin University, China with a Master Degree in Mineral Deposits (1992). I am a geological consultant and a registered practising member of the Association of Professional Geoscientist of Ontario (Registration No. 1681). I am also a member of the Ontario Prospectors Association.

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.

My relevant experience for the purpose of the Technical Report is as follows:

- Geologist –Geology and Mineral Bureau, Liaoning Province, China, 1992-1993
- Senior Geologist – Committee of Mineral Resources and Reserves of Liaoning, China, 1993-1998
- VP – Institute of Mineral Resources and Land Planning, Liaoning, China, 1998-2001
- Project Geologist–Exploration Division, De Beers Canada, 2003-2009
- Mine Geologist – Victor Diamond Mine, De Beers Canada, 2009-2011
- Resource Geologist– Coffey Mining Canada, 2011-2012
- Consulting Geologist, Present

4. I have not visited the property that is the subject of this Technical Report.
5. I am responsible for co-authoring Sections 1, 14, 25, 26, and 30 and am responsible for Sections 31, 32, 33, 34, 35, and 36 of the Technical Report along with those sections of the Summary pertaining thereto.
6. I am independent of the Issuer applying the test in Section 1.5 of NI 43-101.
7. I have had prior involvement with the Properties that are the subject of this report. The nature of my involvement is as co-author of a Technical Report titled "Technical Report and Updated Resource Estimate on the Buffalo Ankerite, Fuller, Paymaster, and Davidson Tisdale Gold Deposits Porcupine Mining Division North-Eastern Ontario, Canada" (the "Technical Report"), with an effective date of June 1, 2013.
8. I have read NI 43-101 and Form 43-101F1 and the Technical Report has been prepared in compliance therewith.



9. As of the date of this certificate, 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;

Signing Date: June 5, 2014

**(Signed & Sealed) “Yungang Wu”**

Yungang Wu, P.Geo.

**EUGENE J. PURITCH, P. ENG.**

I, Eugene J. Puritch, P. Eng., residing at 44 Turtlecreek Blvd., Brampton, Ontario, L6W 3X7, do hereby certify that:

1. I am an independent mining consultant and President of P & E Mining Consultants Inc.
2. This certificate applies to the technical report titled "Technical Report on the Preliminary Economic Assessment of the Buffalo Ankerite, Fuller, Paymaster, and Davidson Tisdale Gold Deposits, Northeastern Ontario, Canada" (the "Technical Report"), with a signing date of June 5, 2014.
3. I am a graduate of The Haileybury School of Mines, with a Technologist Diploma in Mining, as well as obtaining an additional year of undergraduate education in Mine Engineering at Queen's University. In addition I have also met the Professional Engineers of Ontario Academic Requirement Committee's Examination requirement for Bachelor's Degree in Engineering Equivalency. I am a mining consultant currently licensed by the Professional Engineers of Ontario (License No. 100014010) and registered with the Ontario Association of Certified Engineering Technicians and Technologists as a Senior Engineering Technologist. I am also a member of the National and Toronto Canadian Institute of Mining and Metallurgy.

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 practiced my profession continuously since 1978. My summarized career experience is as follows:

- Mining Technologist - H.B.M. & S. and Inco Ltd., ..... 1978-1980
- Open Pit Mine Engineer – Cassiar Asbestos/Brinco Ltd., ..... 1981-1983
- Pit Engineer/Drill & Blast Supervisor – Detour Lake Mine, ..... 1984-1986
- Self-Employed Mining Consultant – Timmins Area, ..... 1987-1988
- Mine Designer/Resource Estimator – Dynatec/CMD/Bharti, ..... 1989-1995
- Self-Employed Mining Consultant/Resource-Reserve Estimator, ..... 1995-2004
- President – P & E Mining Consultants Inc, ..... 2004-Present

4. I have not visited the Property that is the subject of this Technical Report.
5. I am responsible for co-authoring Sections 1, 14, 25 and 26 of the Technical Report along with those sections of the Summary pertaining thereto.
6. I am independent of the Issuer applying the test in Section 1.5 of NI 43-101.
7. I have had prior involvement with the Properties that are the subject of this report. The nature of my involvement is as co-author of a Technical Report titled "Technical Report and Updated Resource Estimate on the Buffalo Ankerite, Fuller, Paymaster, and Davidson Tisdale Gold Deposits Porcupine Mining Division North-Eastern Ontario, Canada" (the "Technical Report"), with an effective date of June 1, 2013.

8. I have read NI 43-101 and Form 43-101F1. This Technical Report has been prepared in compliance therewith.
9. As of the date of this certificate, 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.

Signed Date: June 5, 2014

**(Signed & Sealed) “Eugene J. Puritch”**

Eugene J. Puritch, P.Eng.



## **SENES Consultants**

121 Granton Drive, Suite 12  
Richmond Hill, Ontario  
Canada L4B 3N4

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Fax 905 764 9386  
Email [senes@senes.ca](mailto:senes@senes.ca)  
[www.senes.ca](http://www.senes.ca)

5 June 2014

### **JEFFREY C. MARTIN**

I, Jeffrey C. Martin, P. Eng., as an author of this report entitled "Technical Report on the Preliminary Economic Assessment of the Buffalo Ankerite, Fuller, Paymaster, and Davidson Tisdale Gold Deposits, Northeastern Ontario, Canada" prepared for Lexam VG Gold Inc. and dated June 5, 2014, do hereby certify that:

1. I am a Senior Geological/Environmental Engineer with SENES Consultants of 121 Granton Drive, Suite 12, Richmond Hill, ON, L4B 3N4.
2. I am a graduate of University of Toronto in 1985 with a Bachelor of Applied Science Degree in Geological Engineering.
3. I am registered as a Professional Engineer in the Province of Ontario (Reg. # 90262890). I have worked as a geological engineers for a total of 29 years since my graduation. My relevant experience for the purpose of the Technical Report is:
  - Over 20 years of experience with environmental projects related to the mining industry;
  - Mining environmental projects include: assessment of waste rock, tailings, and other reactive mine wastes; development of management strategies for mine wastes; mine closure and decommissioning studies including closure costing; surface water and hydrogeological investigations; modelling of oxygen barrier cover performance; pathways analyses; risk assessments; and preparation of reports for the Canadian federal government's Mine Environment Neutral Drainage (MEND) program in the areas of waste rock sampling, environmental monitoring, and metal leaching and acid rock drainage (ML/ARD) technology.
  - Carried out over 25 ML/ARD assessments and reviews for mine sites across Canada and abroad. The assessments typically included a field evaluation of ML/ARD including waste rock, tailings, and water sampling programs, design of laboratory analytical programs, interpretation of field and laboratory results, interpretation of geology and mining plans with respect to the potential for ML/ARD, assistance with geochemical modelling inputs (for some sites), and recommendations regarding waste rock management and monitoring programs. Where available, seeps were also sampled and assessed as part of these assignments.
  - Project manager and key engineer for over 15 Ontario mine closure plans developed in accordance with Ontario Regulation 240/00. These closure plans typically involve conceptual design of remediation strategies for waste rock dumps, tailings areas and

**ISO 9001 Certified**

- other facilities, estimation of closure costs, assessment of current and future groundwater and surface water quality, and development of monitoring, and care and maintenance programs.
- Experience also includes environmental due diligence and peer review assignments, hydrogeological assessments, risk assessments, environmental impact assessments, permitting, pathways analyses, and environmental site assessment.
4. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
  5. I visited the Lexam Timmins Properties on October 8 and 9, 2013.
  6. I am responsible for preparation of Section 20 and portions of Sections 1, 25, and 26 of the Technical Report.
  7. I am independent of the Issuer applying the test set out in Section 1.5 of NI 43-101.
  8. I have had no prior involvement with the property that is the subject of the Technical Report.
  9. I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.
  10. At the effective date of the Technical Report, to the best of my knowledge, information, and belief, the sections for which I am responsible in the Technical Report contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 5<sup>th</sup> day of June, 2014

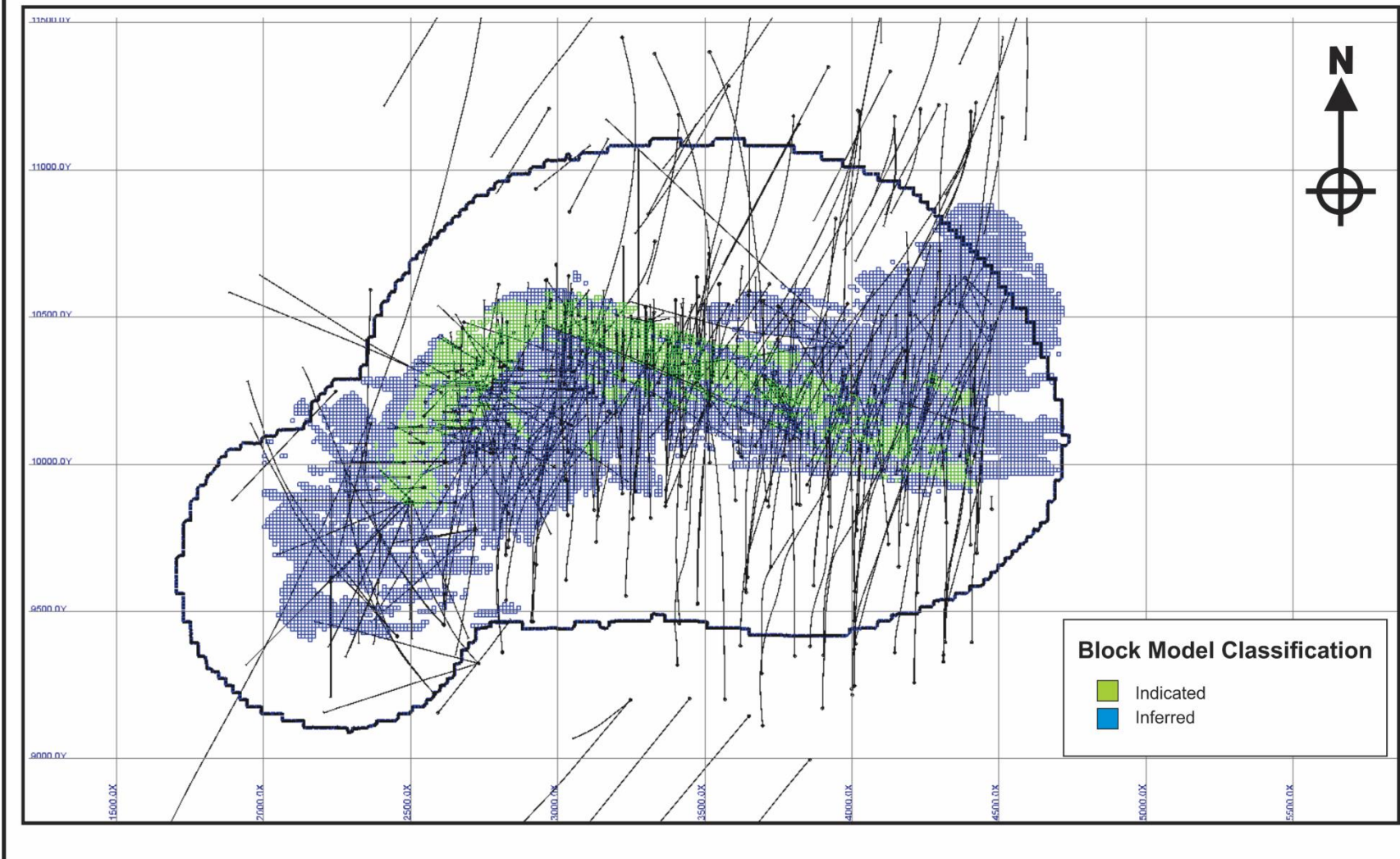
**(Signed & Sealed) "Jeffrey C. Martin"**

Jeffrey C. Martin, P.Eng

## **30 APPENDIX 1**

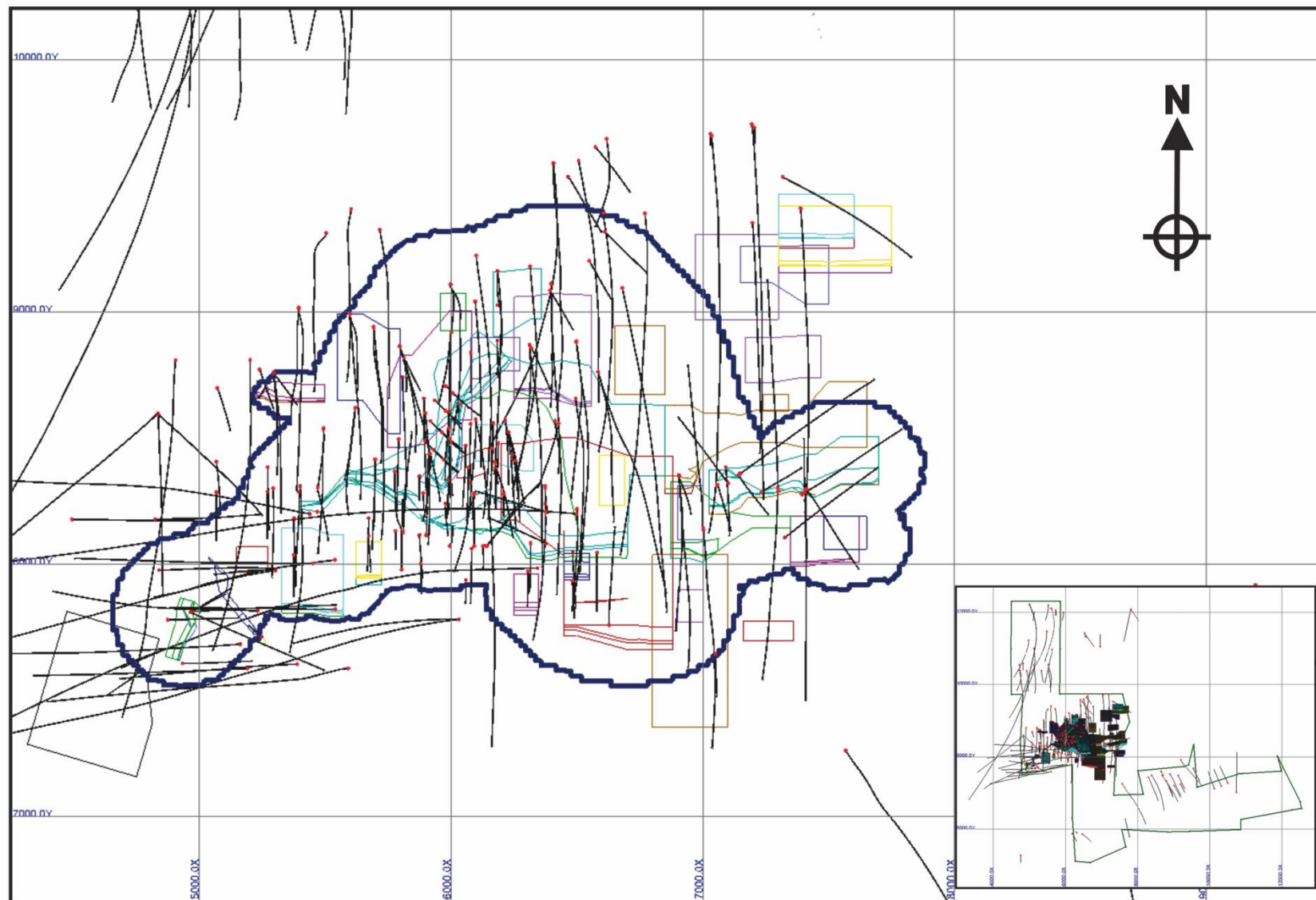
### **DRILL HOLE PLANS**

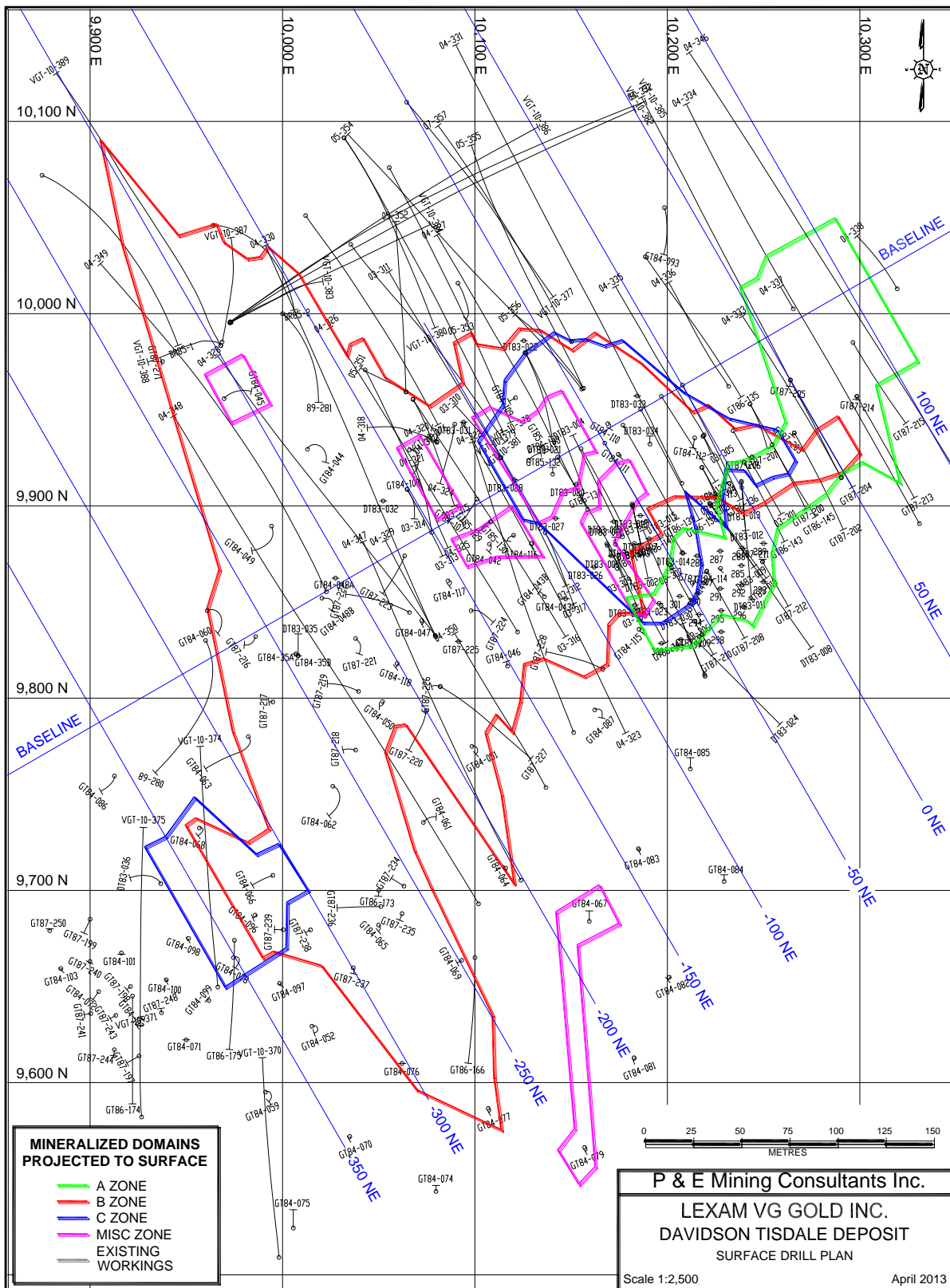
## Fuller Project - Plan View of Drill Hole Traces





# Paymaster Project - Plan View of Drill Hole Traces



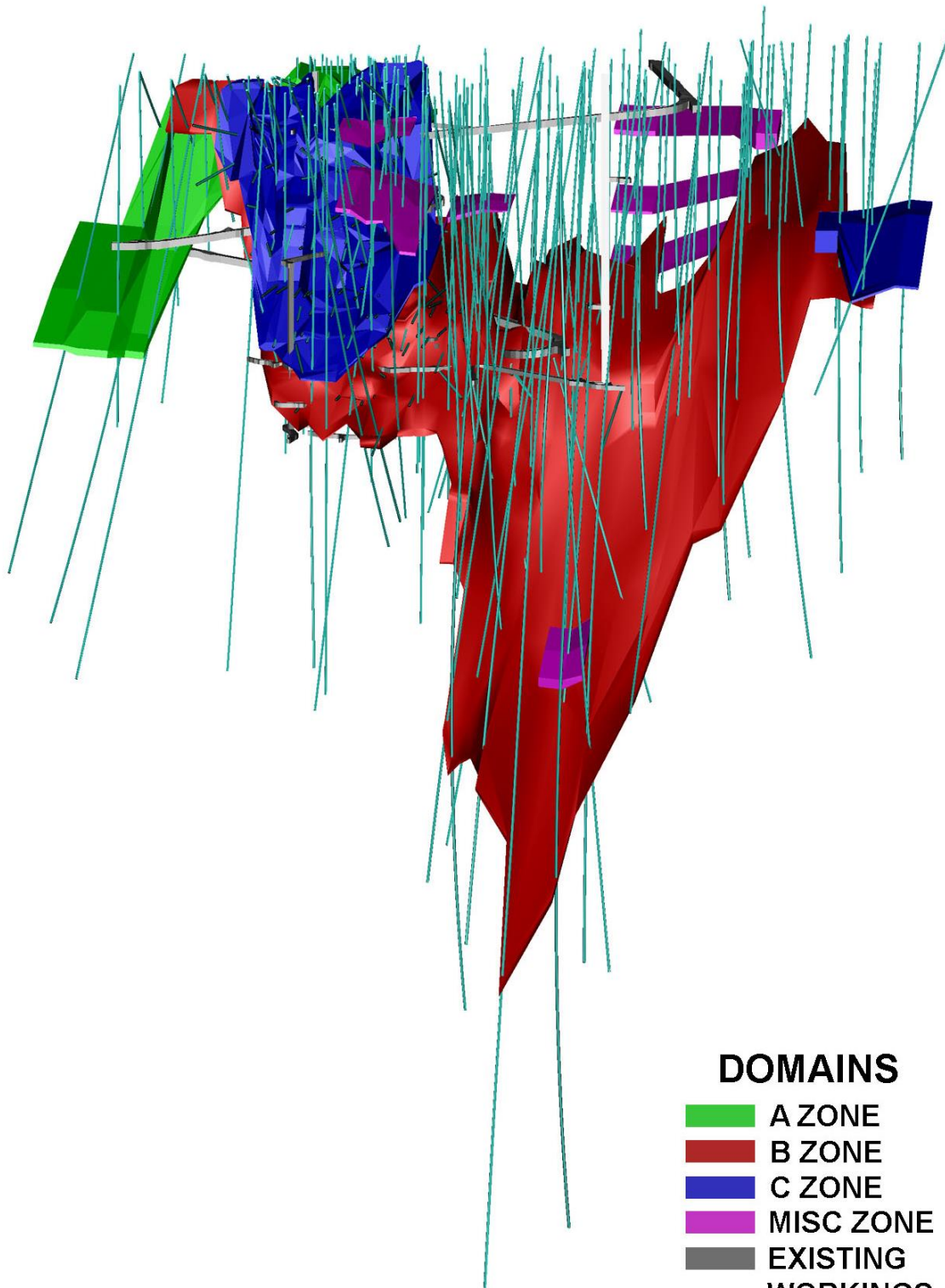




## **31 APPENDIX 2**

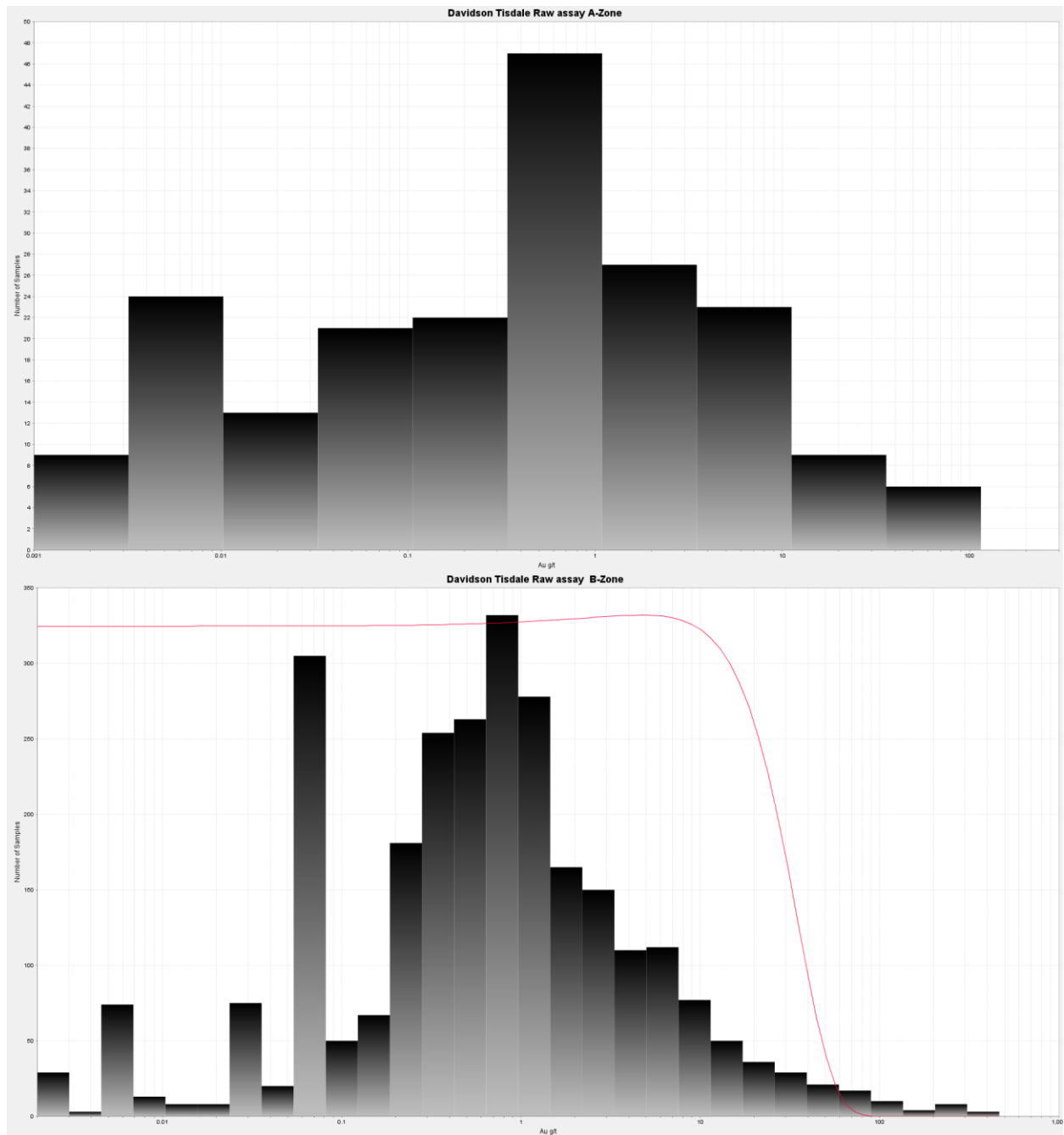
### **3D DOMAINS**

# DAVIDSON TISDALE DEPOSIT 3D DOMAINS

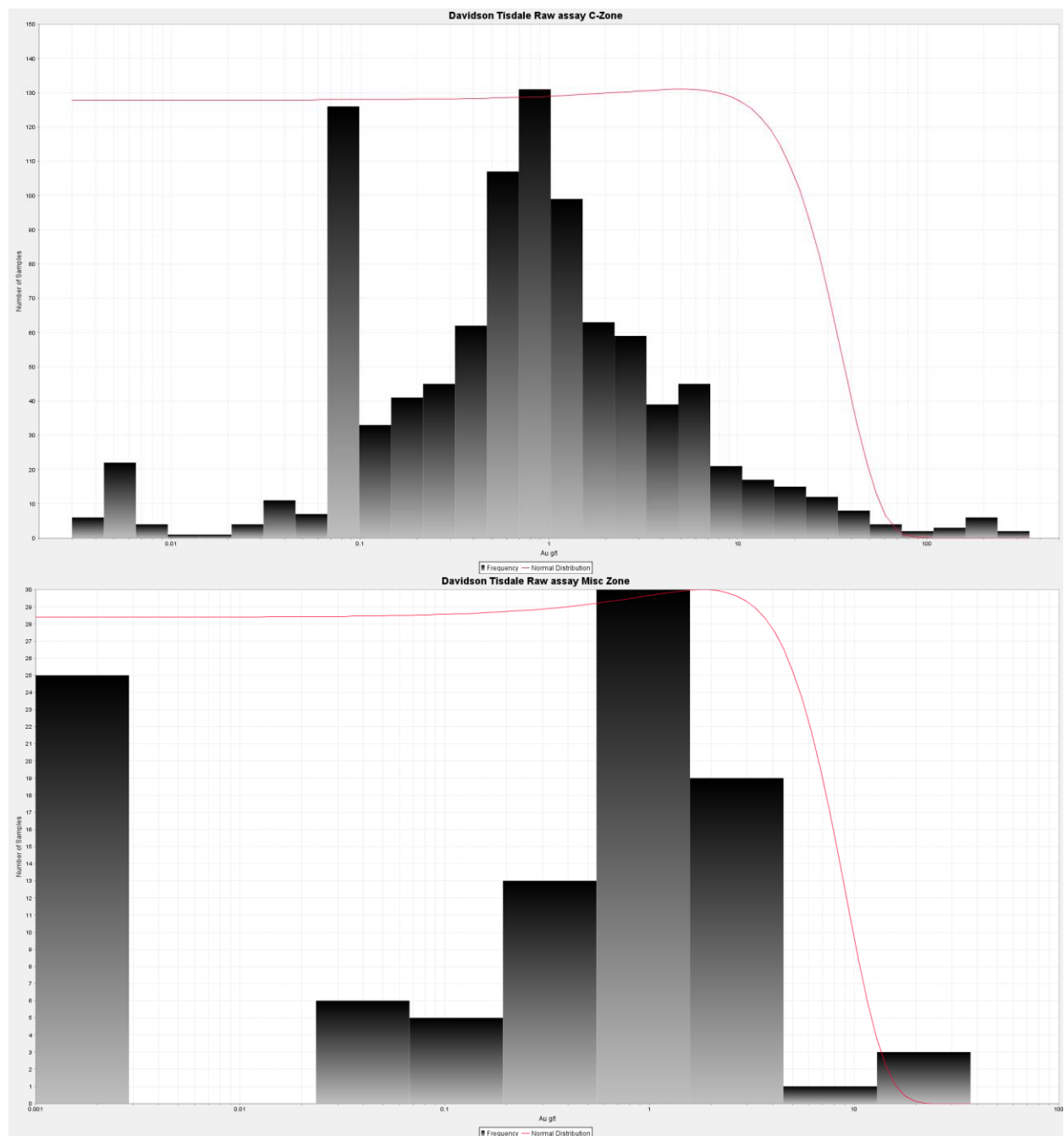


## **32 APPENDIX 3**

### **LOG NORMAL HISTOGRAMS**







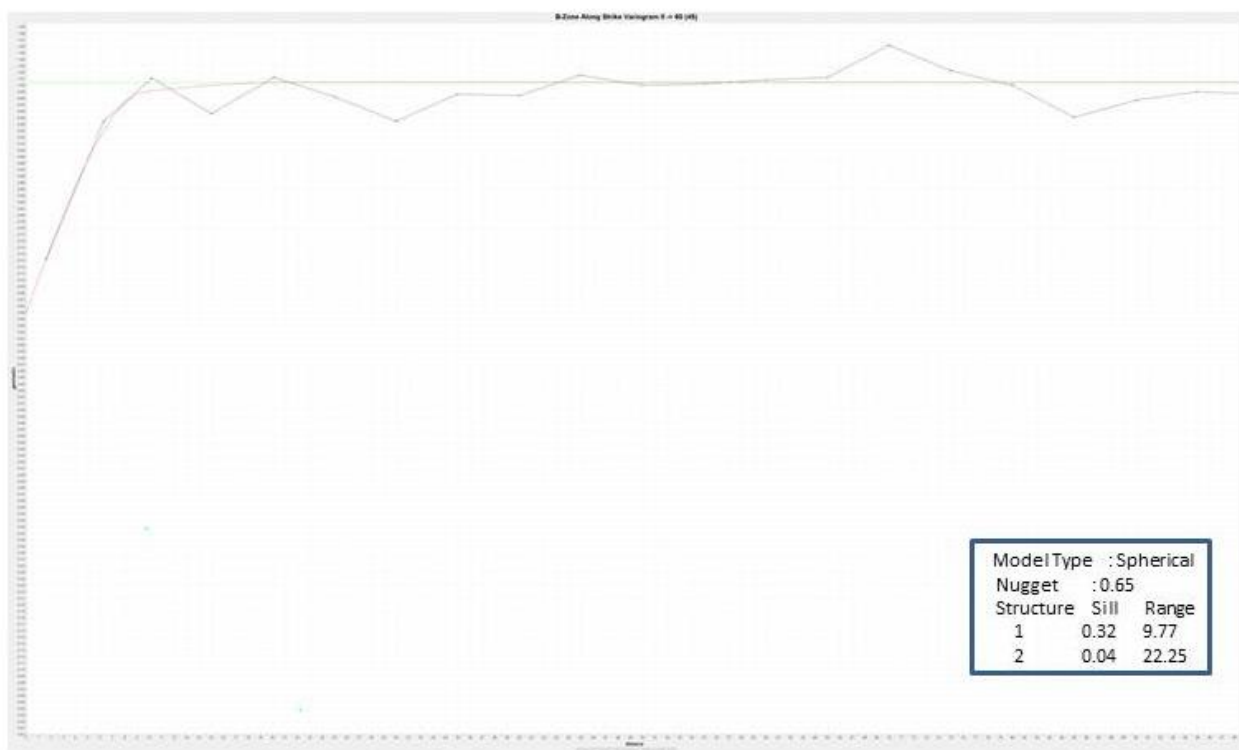
## **33 APPENDIX 4**

### **VARIOGRAMS**

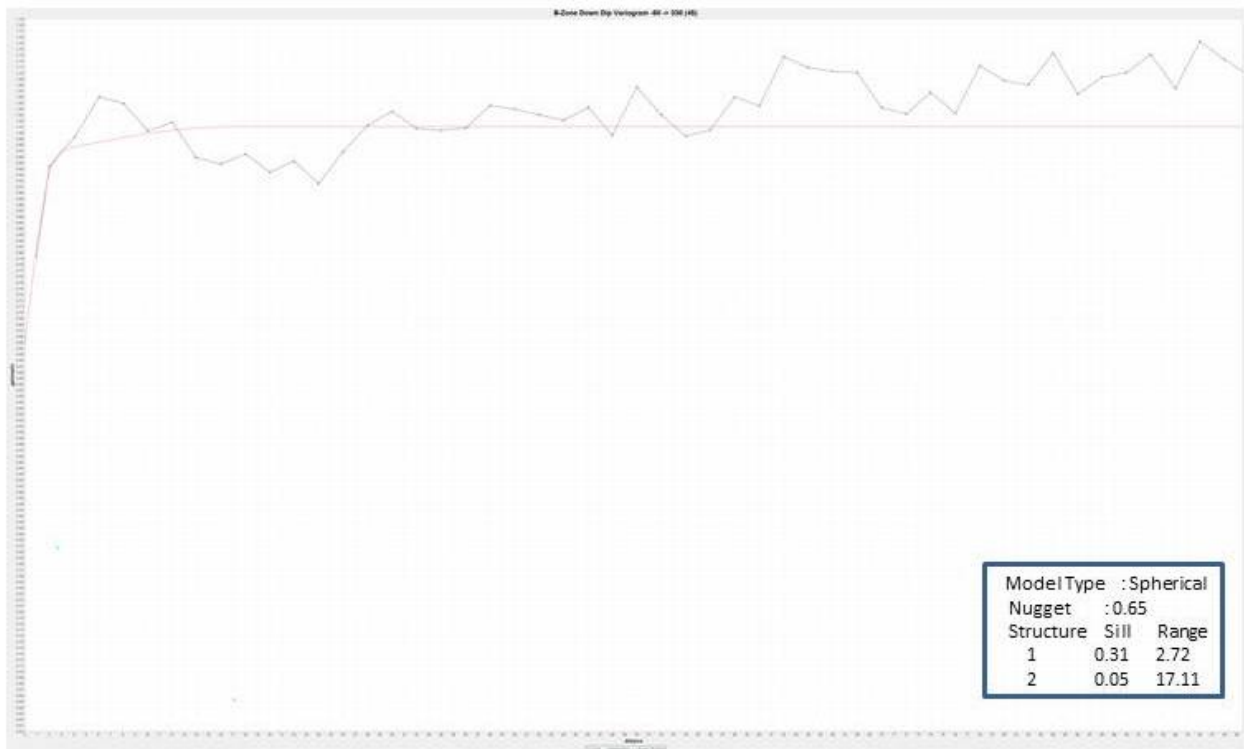
## Davidson Tisdale B-Zone Omni Variogram



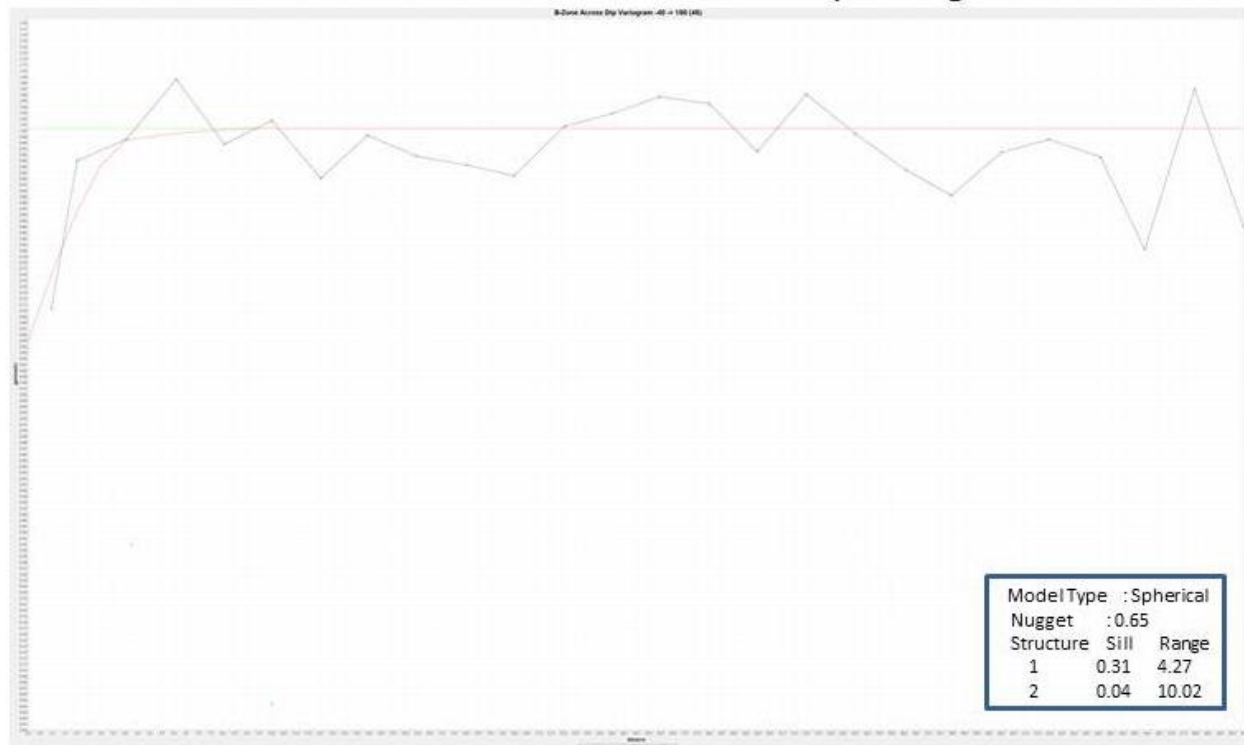
## Davidson Tisdale B-Zone Along Strike Variogram



## Davidson Tisdale B-Zone Down Dip Variogram

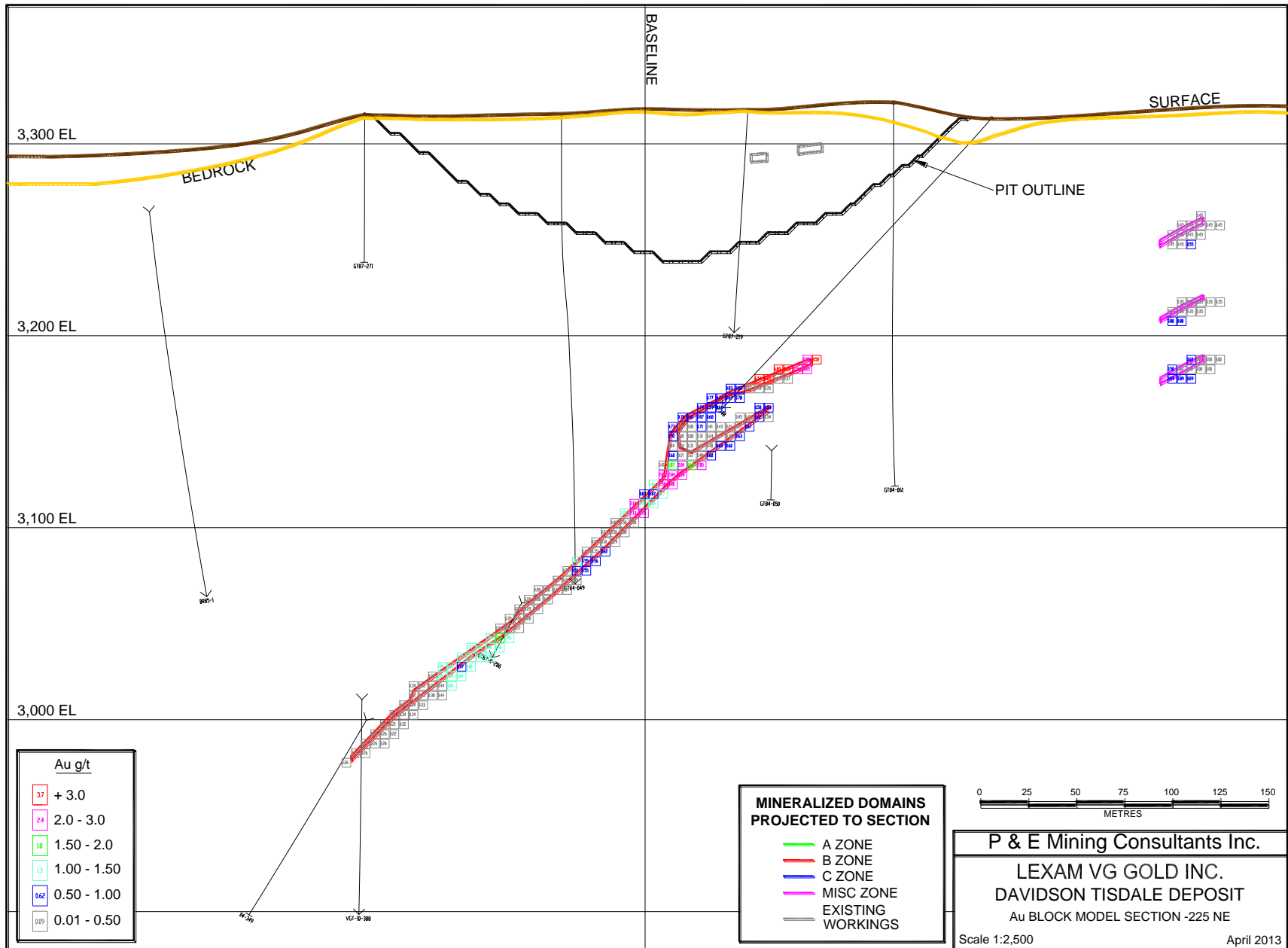


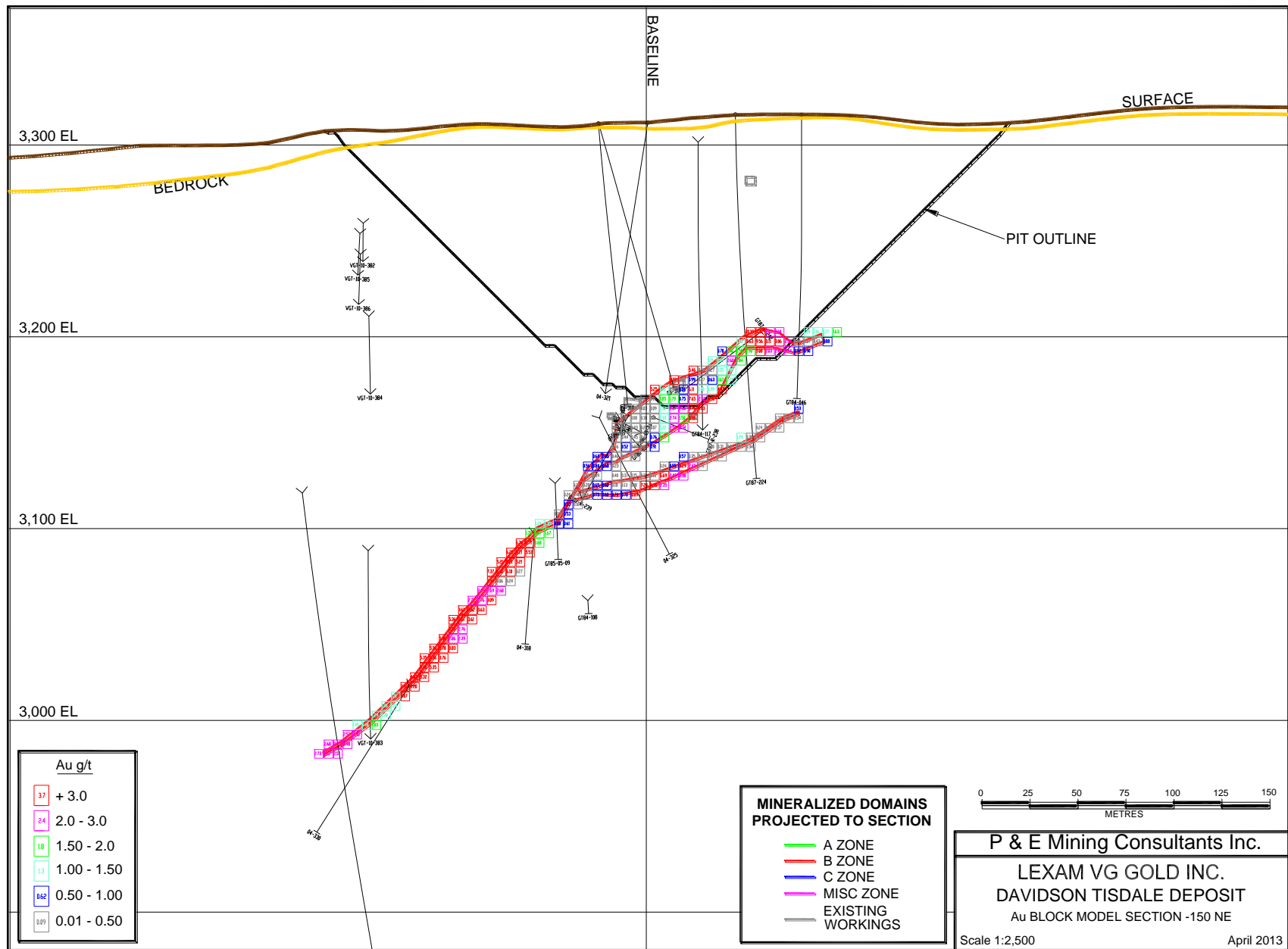
## Davidson Tisdale B-Zone Across Dip Variogram



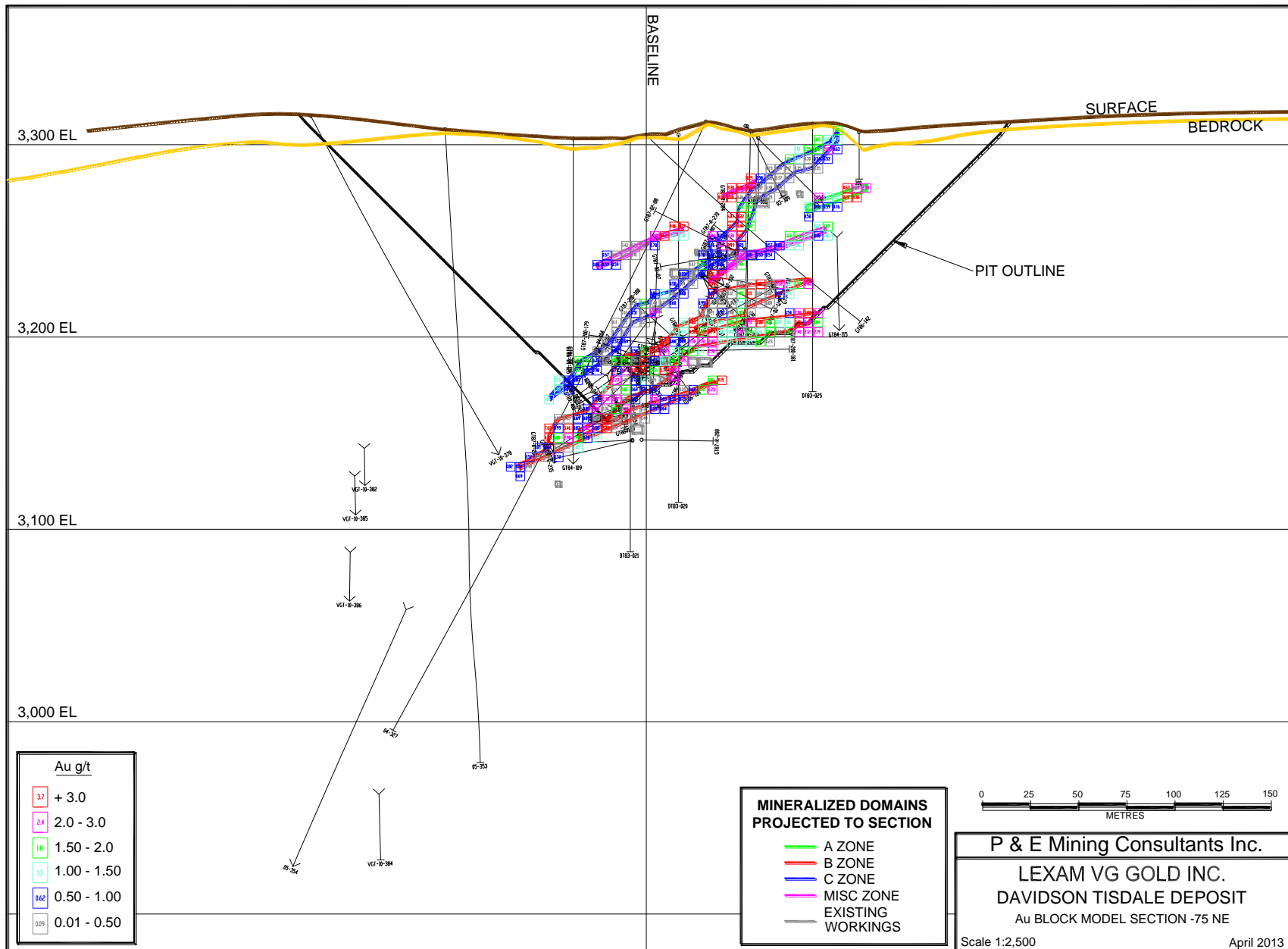
## **34 APPENDIX 5**

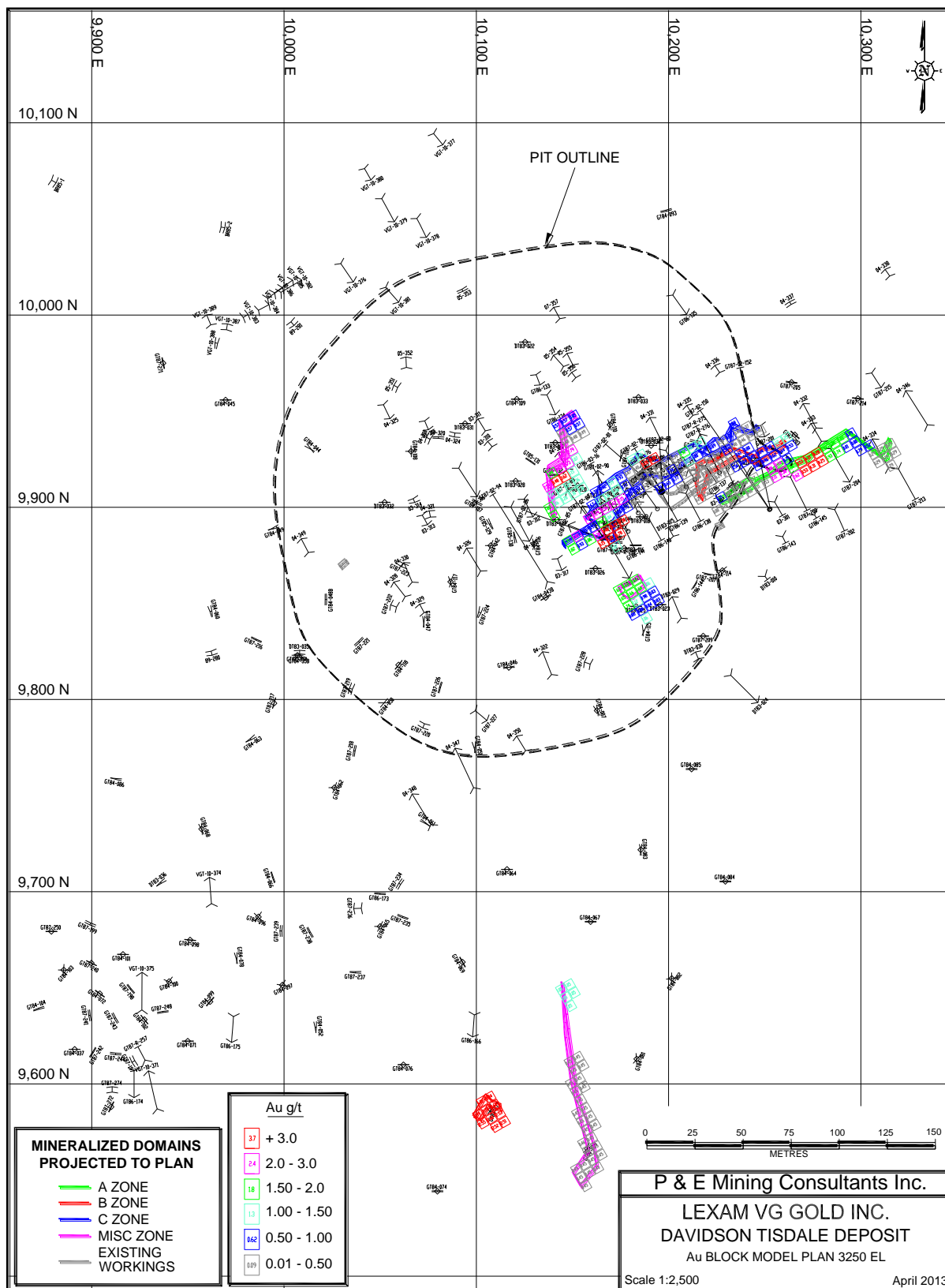
### **AU BLOCK MODEL CROSS SECTIONS AND PLANS**

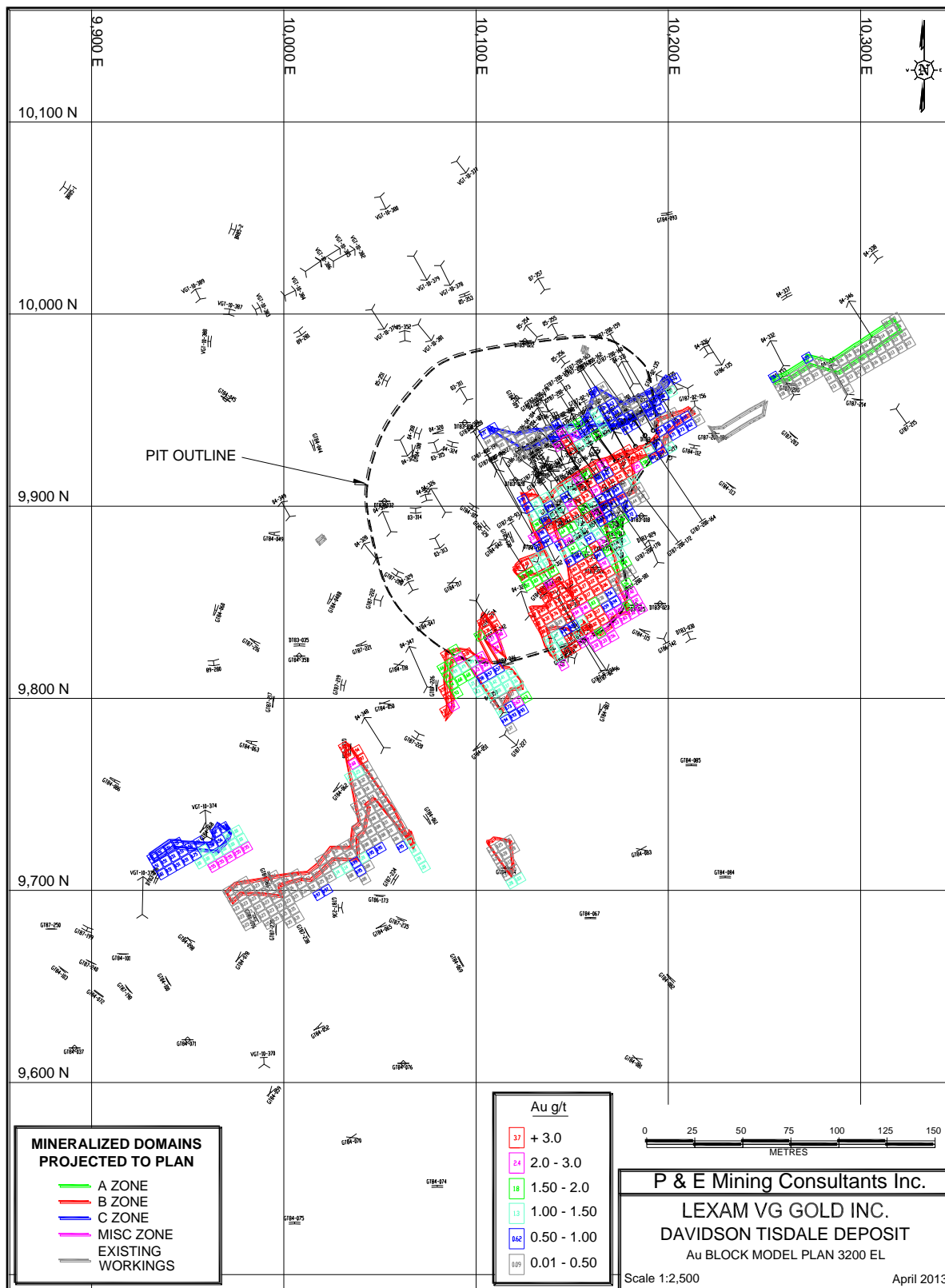


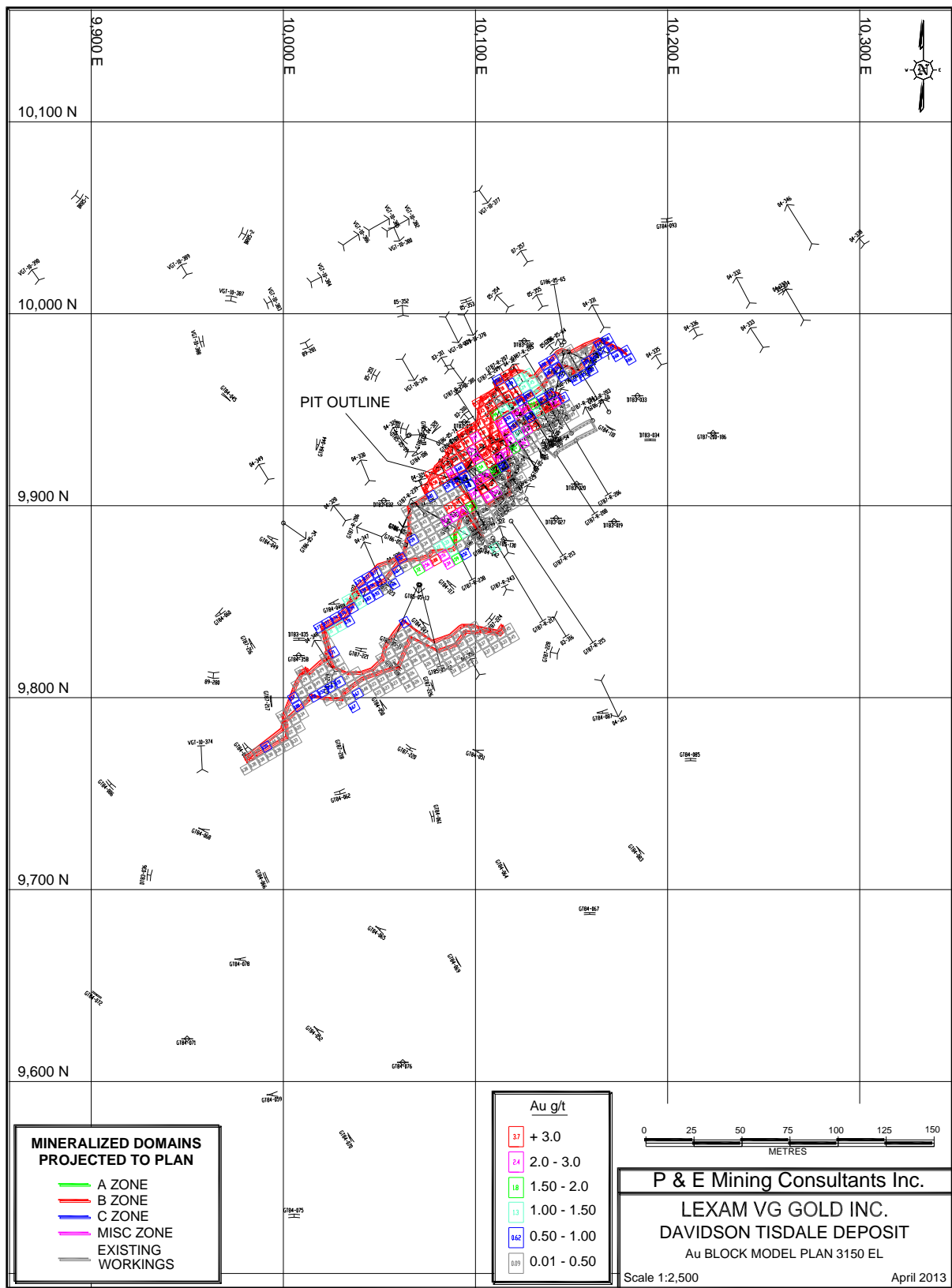






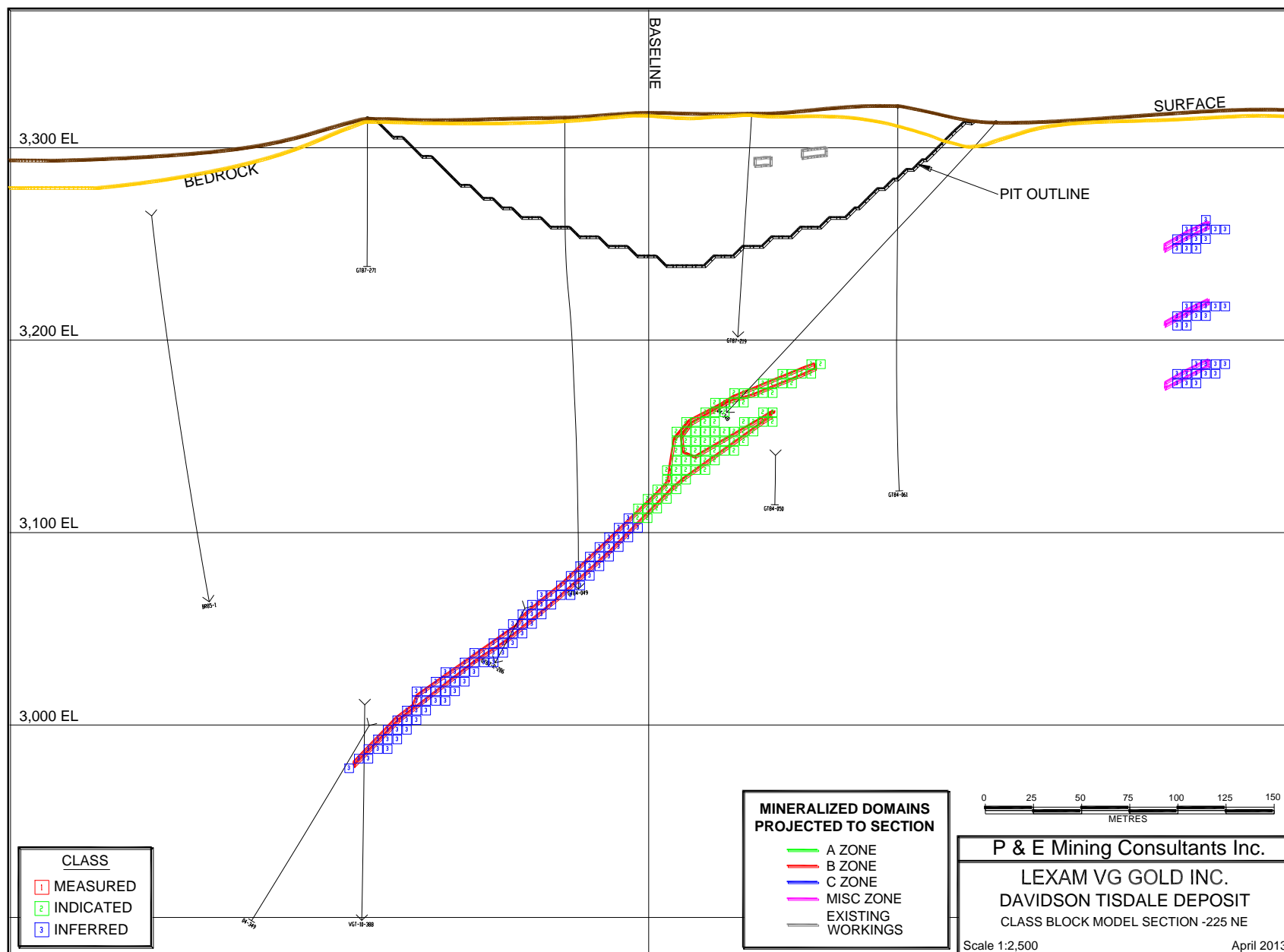


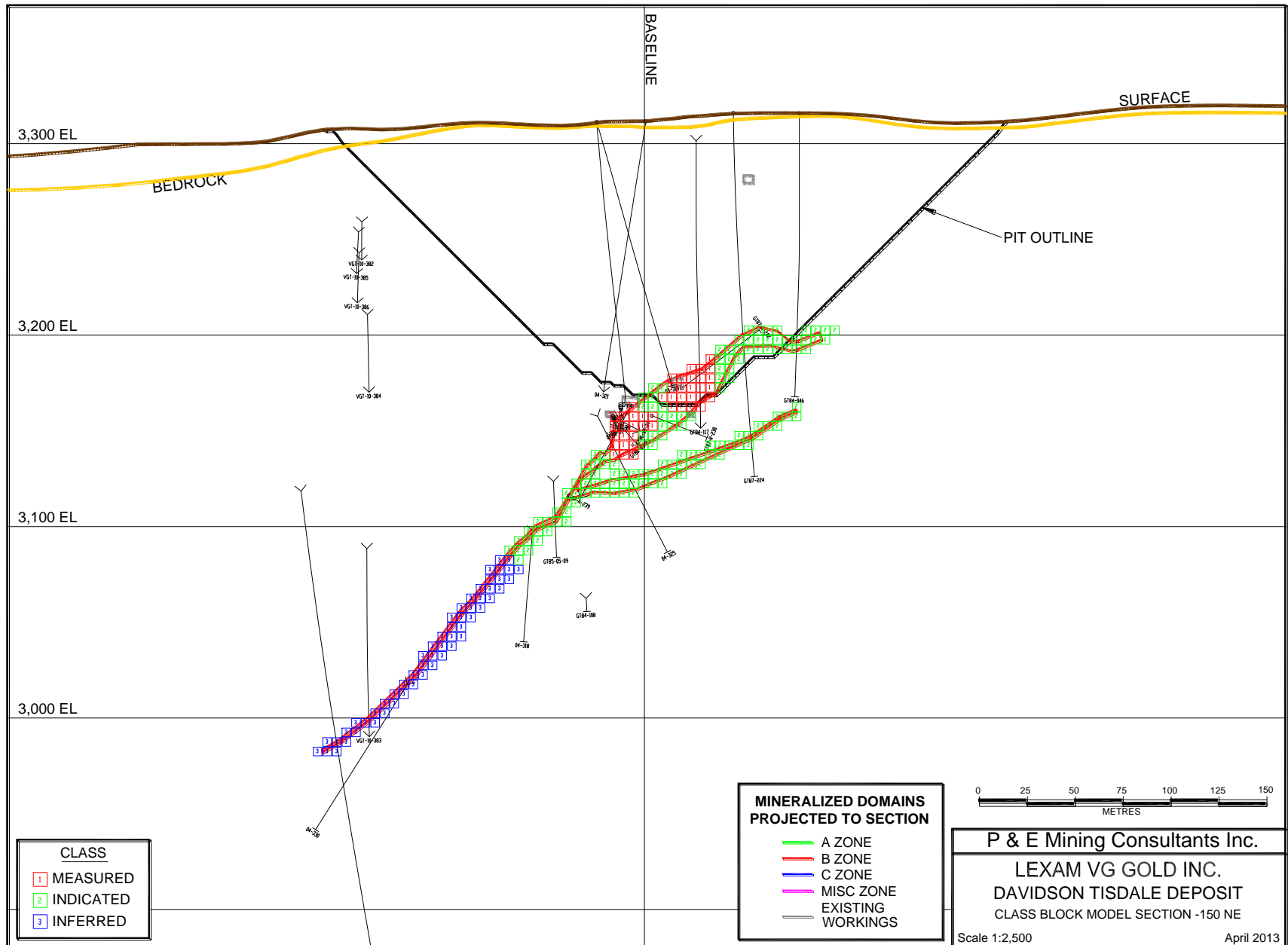




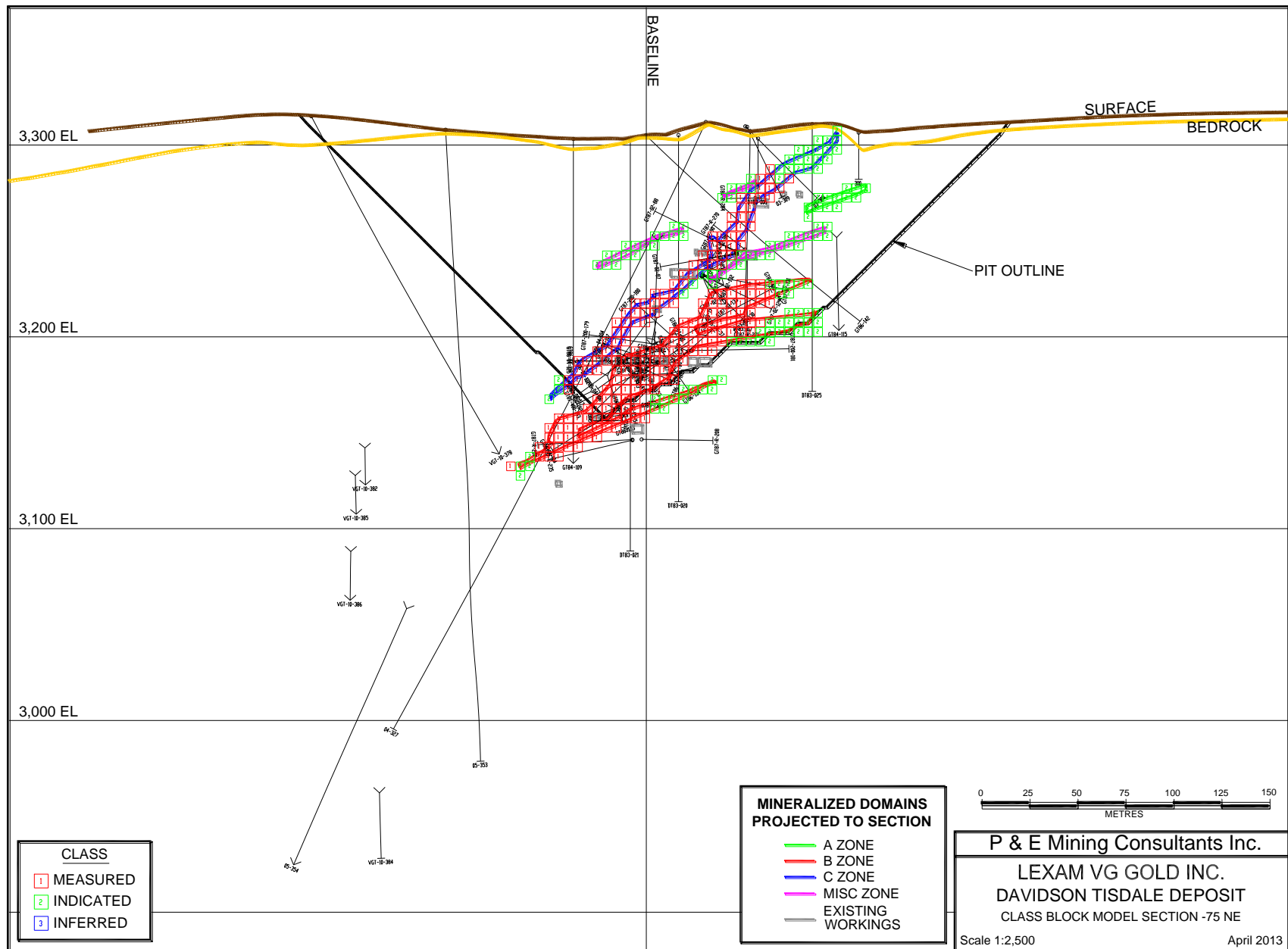
## **35 APPENDIX 6**

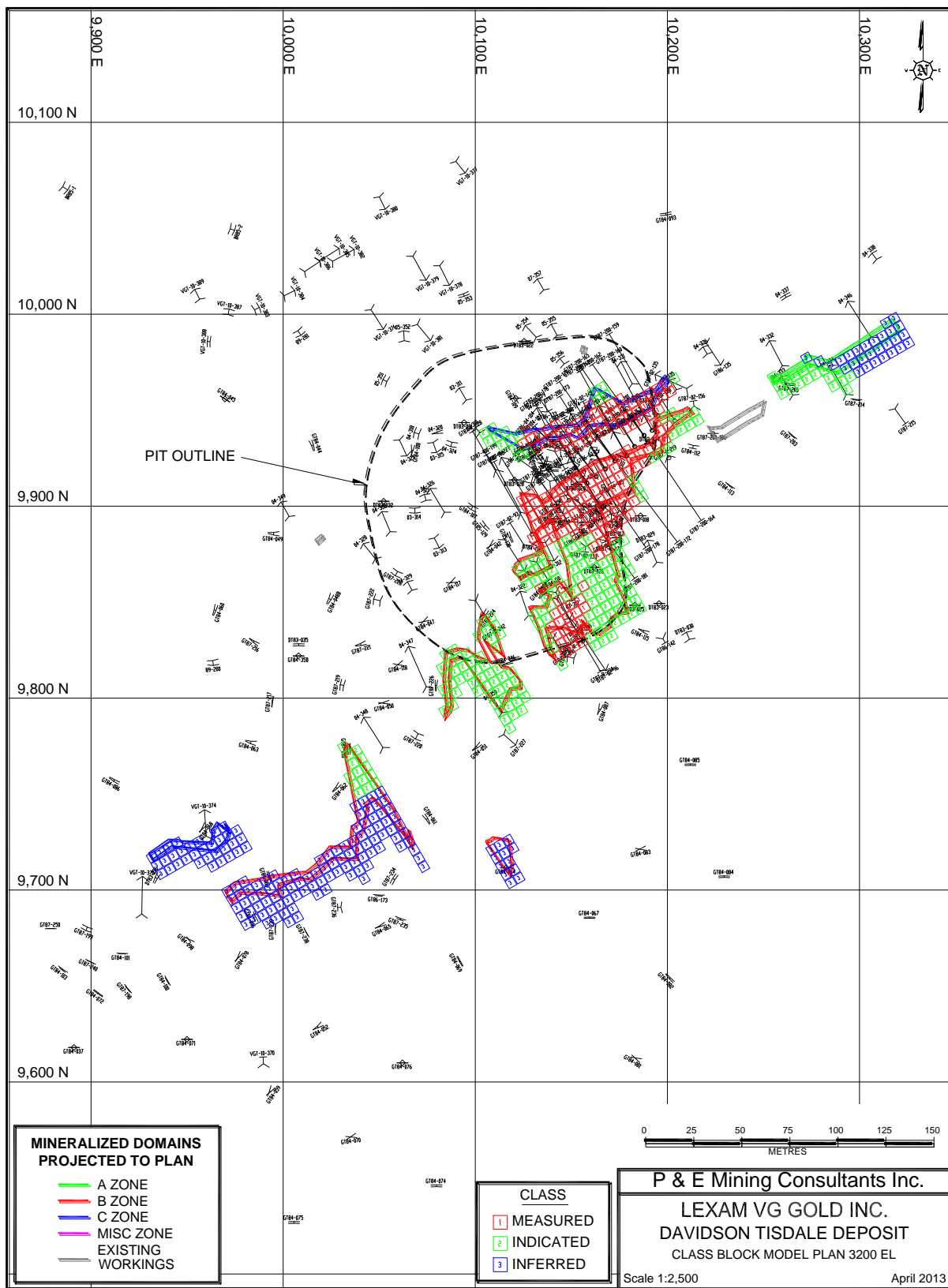
### **CLASSIFICATION BLOCK MODEL CROSS SECTIONS AND PLANS**

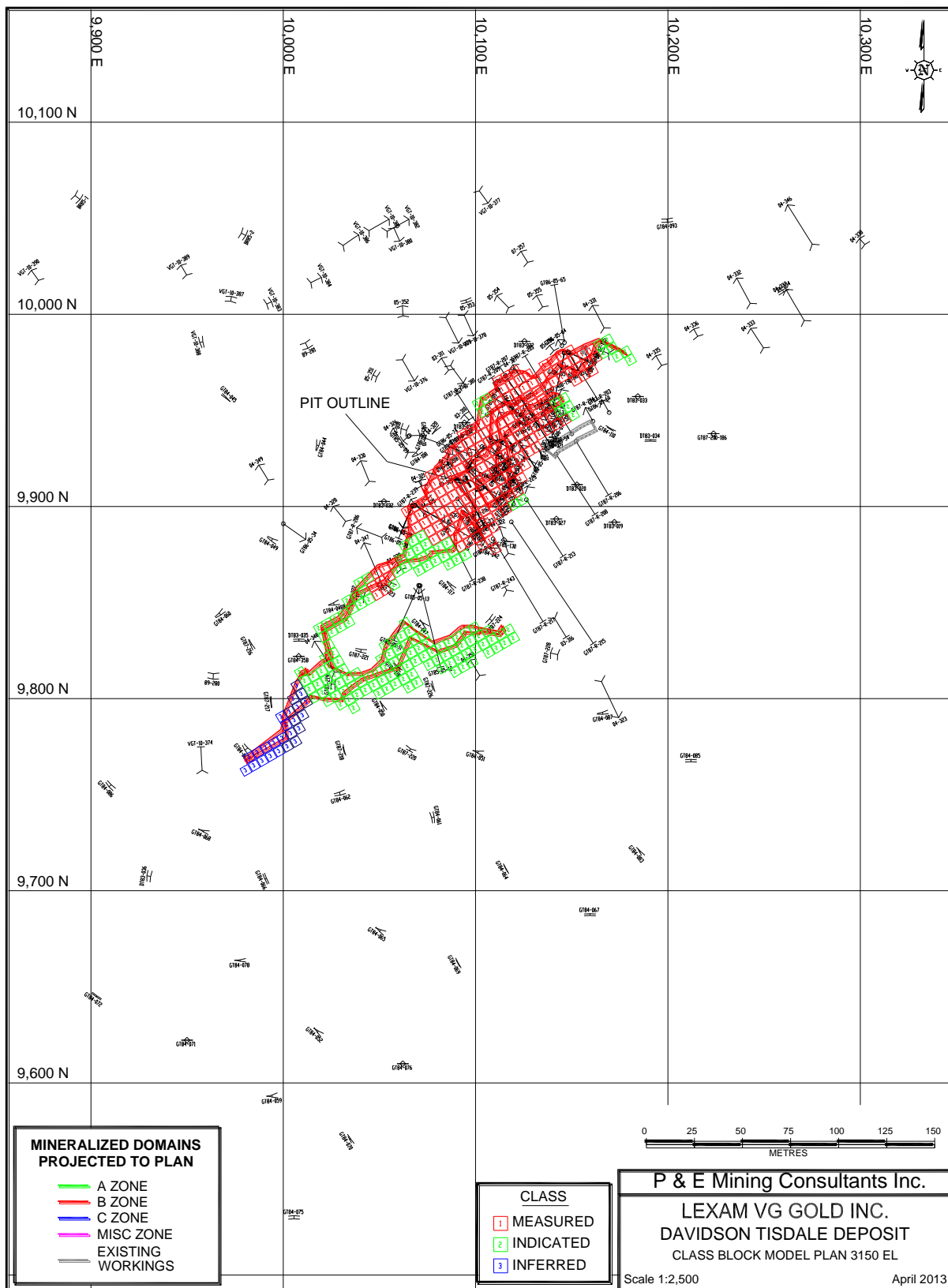










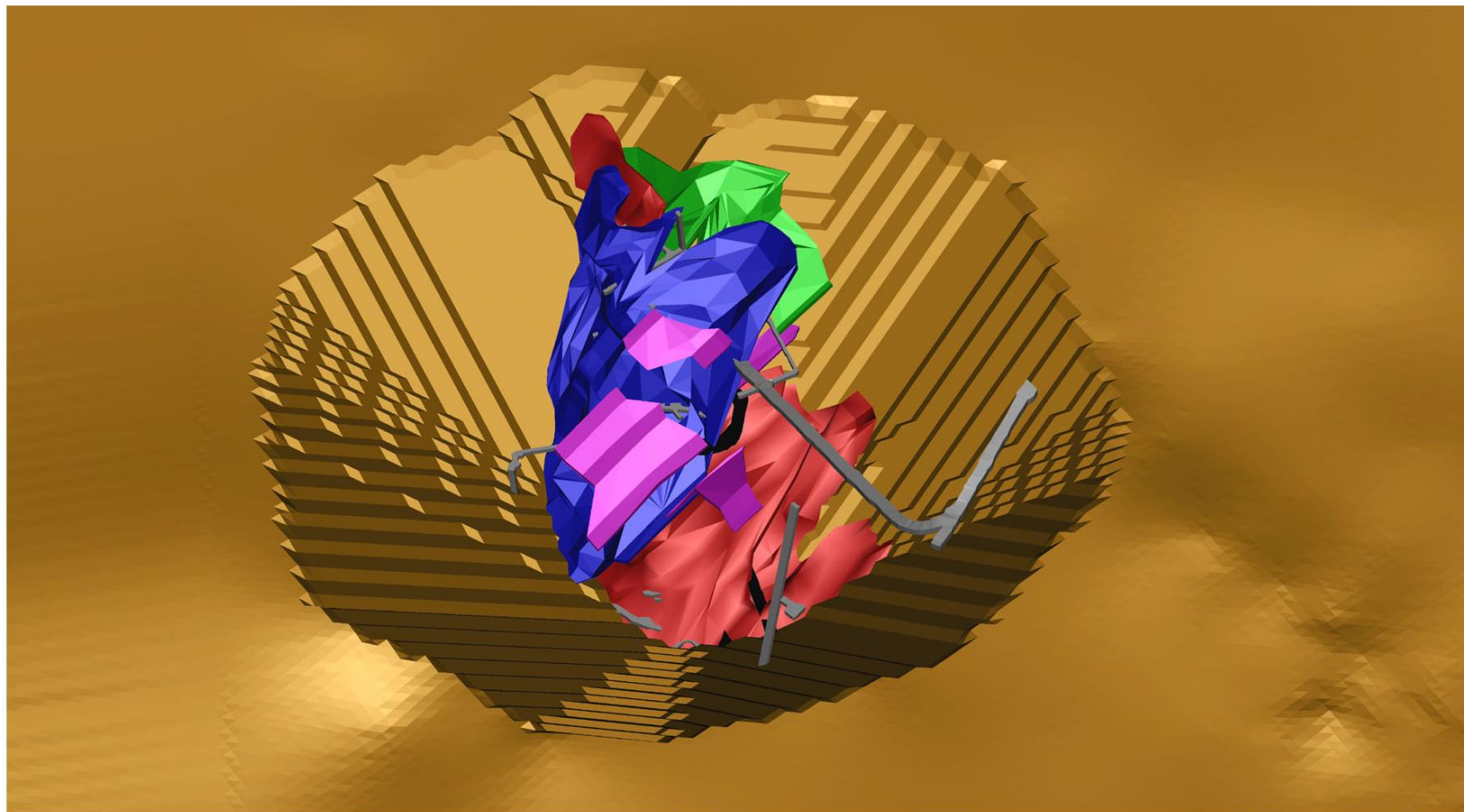




## **36 APPENDIX 7**

### **OPTIMIZED PIT SHELL**

## DAVIDSON TISDALE DEPOSIT - OPTIMIZED PIT SHELL



### DOMAINS

|   |        |   |           |
|---|--------|---|-----------|
|  | A ZONE |  | MISC ZONE |
|  | B ZONE |  | EXISTING  |
|  | C ZONE |   | WORKINGS  |