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## Mineral Resource Evaluation, Langmuir W4 Project, Ontario, Canada

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#### June 28, 2010

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Cover: <u>Top</u>. Massive sulphide drill core from GCL07-10, <u>Bottom</u>: Section showing 3D modeled grade domains in relation to informing drill data and the conceptual pit shell

## **Executive Summary**

#### Introduction

The Langmuir W4 Project ("Langmuir W4") is an advanced mineral exploration project located about 35 kilometres southeast of Timmins, Ontario. The project is owned by Golden Chalice Resources Inc. ("Golden Chalice"), a Toronto Securities Exchange listed company (TSX-V:GCR) which is a member of the Hughes Exploration Group.

The project contains komatiite – hosted Kambalda-style nickel-copper sulphide mineralized zones that are being evaluated for their open pit and underground mining potential. This mineralization is similar to that found at nearby past and current nickel production properties within the Shaw Dome in the Timmins area.

This technical report documents the initial mineral resource evaluation prepared by SRK Consulting (Canada) Inc. ("SRK") for Langmuir W4 and incorporates information from diamond drilling completed by Golden Chalice between 2007 and 2008.

The mineral resource reported herein has been estimated in conformity with generally accepted CIM "Estimation of Mineral Resources and Mineral Reserves Best Practice" guidelines. This technical report was prepared following the guidelines of the Canadian Securities Administrators National Instrument 43-101 and Form 43-101F1. The effective date of this technical report is June 28, 2010.

### **Property Description and Agreements**

The Langmuir Property is comprised of 74 unpatented mining claims (856 claim units) in Blackstock, Carman, Cody, Eldorado, Fallon, Langmuir, Macklem and Thomas Townships. The property is approximately 13,842 hectares in size and owned 100 percent by Golden Chalice. The mineral resources within Langmuir W4 reported herein are all located on claim 4203498 within Langmuir Township.

The centre of the property is located at approximately 48 degrees 18 minutes North Latitude, 80 degrees 58 minutes West Longitude or UTM (NAD83 Z17) coordinates 5,350,000 mN and 502,000 mE. Elevation ranges from 280 to 330 metres above sea level.

All claims forming the Langmuir Property were staked by contractors for Golden Chalice with the exception of claims 3017517 and 3017518. (15 claim units totalling 243 hectares). On July 13, 2004 Golden Chalice optioned these two claims from Mr. David Healey (45 percent), Mr. Todd Keast (45 percent) and Kirnova Corp. (10 percent). On October 14, 2004, Golden Chalice exercised the underlying option on the two claims after paying a total of CN\$5,000 in option payments and issuing 100,000 fully paid ordinary shares to the vendors. There is an area of interest clause within the option agreement, which states that all claims within a five kilometre radius of the respective claims are subject to a two percent NSR (including claim 4203498). A half percent (0.5 percent) NSR can be purchased from the vendors at any time for CN\$500,000.

#### Location, Access and Physiography

The Langmuir Property is located within the boundaries of the city of Timmins, Ontario and can be accessed by motor vehicle from south of the village of South Porcupine by a gravel road known as Stringers Road.

The Langmuir W4 area is located in a region that is generally low-lying with few rock outcrops and characterized by poor drainage. Temperature ranges from summer highs of 30 degrees Celsius to winter lows of negative 30 degrees Celsius. Average winter temperatures are in the range of negative 10 to negative 20 degrees Celsius and average summer temperatures are in the range of 10 degrees Celsius to 20 degrees Celsius. Annual precipitation is approximately 83 centimetres with an average of 60 centimetres of rain and 310 centimetres of snow. The vegetation is a boreal forest combination of black spruce, jack pine, alders and white birch found in lowland areas with poplar, white birch and jack pine found on slightly higher ground.

### History

The Langmuir Township area has received much multi-commodity exploration interest over the past century. Recent exploration initiatives have focused on nickel exploration, with the existence of proximal nickel deposits as the Langmuir No. 1, Langmuir No. 2, Redstone and McWatters encouraging the recent increase in nickel exploration activity.

Ontario Government sponsored work on the Langmuir Township has included various mapping programs and geophysical surveys over areas which include the Langmuir Property. Recent work has included the government sponsored MEGATEM II survey which encompassed the Langmuir W4 area in 2007.

Exploration work conducted, prior to Golden Chalice between 1964 and 2007 on the Langmuir W4 includes the following:

- 1964-1965: Min-Ore Mines Limited: ground magnetic and electromagnetic surveys and a single drill hole;
- 1965: G.E. Cooper: one drill hole;
- 1970: Yellowknife Base Metals Limited: three drill holes;
- 1980-81: Utah Mines Ltd: ground magnetic survey, geological mapping and four diamond drill holes;
- 1987: Canadian Nickel Company: Airborne electromagnetic survey covering the Langmuir W4 area.

Golden Chalice commenced exploration on the Langmuir Property in 2005. Exploration work undertaken by Golden Chalice relating specifically to the Langmuir W4 area includes the following:

- 2005: An airborne vertical transient electromagnetic ("VTEM") survey;
- 2007: Diamond drilling of 37 drill holes for 16,262 metres and a soil mobile metal ion ("MMI") orientation survey;
- 2008: Diamond drilling of 32 drill holes for 5,890 metres.

Golden Chalice also conducted considerable exploration activity on other parts of the Langmuir Property, typically diamond drill testing of VTEM conductors and MMI defined targets.

### **Geology and Mineralization**

The Langmuir W4 is hosted by ultramafic rocks that form part of, or intrude, the Tisdale assemblage that flank the Shaw Dome and form part of the Abitibi greenstone belt ("AGB"). To date five Ni-Cu-(PGE) deposits have been documented in the Shaw Dome (Redstone, Hart, McWatters, Langmuir #1, Langmuir #2), and numerous showings have been identified. These five deposits occur in komatilitic rocks found within the Deloro assemblage near the base of the Tisdale assemblage. The Langmuir W4 deposit is similar to these, representing a new discovery in the Shaw Dome.

The Langmuir Property is predominantly underlain by the middle and lower formations of the Tisdale Group which consist of linear sequences of mafic volcanic units or ultramafic units. The mafic sequences consist of massive to pillowed basaltandesite flows whereas the ultramafic sequences consist of mesocumulate to adcumulate peridotite flows with distinct spinifex textured flow tops. The flow tops indicate younging to the south. Graphitic argillite units are locally present between the peridotite flows. The mafic-ultramafic sequences are locally intruded by north trending Matachewan diabase dykes and north-east trending Abitibi diabase dykes.

The Langmuir W4 deposit is interpreted to consist of three sub-parallel nickel mineralized zones hosted by east – west trending komatiitic peridotite flows. The east-west strike extent of the zones has been defined for at least 200 metres to date. The three interpreted sub-parallel nickel mineralized zones occur within specific komatiitic peridotite flow units. They are vertical to steeply north dipping at 70 to 75 degrees.

Research indicates that the komatiite hosted nickel deposits in the Timmins area are similar to the Achaean age nickel deposits of the Kambalda and Windarra areas in Western Australia. Experimental studies indicate that komatiitic magmas/lavas were emplaced at very high temperatures. The genesis of the Shaw Dome and the Australian deposits is attributed to the combined effect of lava channels (or channelized sheet flows) and intrusives, which provide the heat and metal sources and sulphide bearing iron formations in the footwall that, provide an external sulphur source. Thermal erosion of the underlying rocks by the komatiite flows is considered to be the dominant mechanism for adding sulphur to the magma and to the creating of a depositional 'trough' for sulphide minerals.

Langmuir W4 nickel zones usually comprise of a lower horizon of stringer/fracturefilling sulphides to massive or semi-massive-massive sulphides, which are stratigraphically overlain by disseminated to blebby sulphide zones. Massive sulphides within the lower horizon can grade up to 17.9 percent nickel. Nickel grades are typically a half to three percent within the upper disseminated sulphide horizon. Locally massive sulphide veinlets also occur mainly in the basal lower horizon. Sulphide modal abundance within the lower horizon is usually over 15 percent, whereas within the upper horizon the sulphide modal abundance varies from three to 15 percent.

### **Exploration and Drilling**

Golden Chalice commenced exploration on the Langmuir Property in 2005. Golden Chalice has drilled a total of 130 holes on the Langmuir Property between May 2005 and April 2010. All holes were drilled from the surface and were land based. The mineral resource evaluation described herein is based on 69 holes (22,152 metres) drilled by Golden Chalice in 2007 and 2008 to test the sulphide mineralization in the Langmuir W4 area. All the NQ sized drill holes drilled to outline the Langmuir W4 nickel deposit were drilled by Norex Drilling of Timmins, Ontario. Within Langmuir W4 drilling was conducted on a tight pattern of approximately 25 metres spacing with one, two, or three drill holes per setup. The 2007 drill program holes were all drilled at an azimuth of 320 to 325 degrees and with dip angles of 45 to 60 degrees; whereas 2008 drill holes were drilled southward at azimuths varying from 195 to 176 degrees with dip angles of 45 to 70 degrees.

After the Langmuir W4 discovery hole GCL07-06, a small field grid was cut. The field grid consisted of a 1.2 kilometre base line and twelve 450 metre long cross lines spaced 50 metres apart. The drilling grid base line is oriented at 055 degrees. Every 2007 drill hole in the Langmuir W4 area was spotted using a field measuring tape and a compass. All 2008 drill holes were spotted with a Differential GPS ("DGPS"). After the 2007 drill holes were completed, the top of the collar casing location ((NAD83 datum, Zone 17N), was surveyed by Talbot Surveys Ltd. of Timmins Ontario, using a DGPS.

During drilling operations, the down hole orientations of all drill holes were surveyed using a Reflex EZ-Shot instrument, with readings were taken 15 metres below the casing, then nominal at 50 metre intervals for the remaining length of the hole and finally at the end of the hole.

#### Sampling Method, Approach and Analyses

Golden Chalice use industry best practices to collect, handle and assay drilling samples from Langmuir W4. Exploration work is undertaken using a field quality management system supervised by appropriately qualified personnel.

Core assay samples were collected from half core sawed lengthwise with a diamond saw over intervals averaging 1.0 metre. Sampling of the core was based on visual observations of sulphide mineralization and samples were collected within lithologically homogeneous intervals with due regard for varying mineralogy and textures. Sample intervals did not cross geological boundaries.

Golden Chalice use a single primary laboratory for assaying core samples collected on Langmuir W4. Samples were sent to the Laboratoire Expert Inc. of Rouyn-Noranda, Quebec. This laboratory is not accredited according to ISO/IEC Guideline 17025 by the Standards Council of Canada ("SCC"). SRK is uncertain if Laboratoire Experts Inc. participates in round robin proficiency tests. In addition, Golden Chalice does not employ an umpire laboratory to monitor the analytical results delivered by Laboratoire Expert Inc.

Core samples were prepared for assaying using industry standard preparation procedures. All drill core samples from Langmuir W4 were analyzed for nickel, copper, cobalt, lead, and zinc by aqua regia digestion followed by atomic absorption analyses. Drill core samples were also analyzed for gold, platinum and palladium by lead fire assay with an atomic absorption finish on a 30 gram sample pulp.

Golden Chalice have partly relied on the laboratory internal quality control measures, and also implemented external analytical quality control measures consisting of inserting control samples (blanks and certified reference standards) with each batch of core drilling samples submitted for assaying. The analytical quality control program developed by Golden Chalice is overseen by appropriately qualified geologists and generally meets industry best practices.

#### **Data Verifications**

Golden Chalice implements a series of industry standard routine verifications to ensure the collection of reliable exploration data. Documented exploration procedures exist to guide most exploration tasks to ensure the consistency and reliability of exploration data. In accordance with National Instrument 43-101 guidelines, SRK visited Langmuir W4 during 18 to 19 March 2010. The site visit was conducted to ascertain the geological setting of the Langmuir W4 nickel mineralization and to witness the extent of exploration work carried out on the property.

SRK conducted a series of routine verifications to ensure the reliability of the electronic data provided by Golden Chalice. These verifications include auditing the selected electronic data against original paper assay certificate records. No significant data entry errors were noted. In the opinion of SRK, the electronic data are reliable, appropriately documented and exhaustive. SRK also collected 10 core samples for independent verification analyses and found the variance in nickel and copper grades reported by the primary laboratory and the independent laboratory to be acceptable.

The analytical quality control data produced by Golden Chalice comprise assay results for sample blanks, certified field standards and limited check assay pairs. SRK aggregated the assay results for further analysis using time series, bias charts, quantile-quantile and relative precision plots. Although, the overall performance of the control samples inserted into the sampling stream submitted for assaying is generally acceptable, this limited dataset analyses suggests that higher grade standard assays tend to be biased high, whereas low grade standard assays tend to be biased low. As recommended by SRK, a total of 75 pulp reject samples from drill samples taken throughout the exploration program were selected by Golden Chalice for check assaying by an independent laboratory. Similarly to the standard reference material results, the check assay exercise suggests that higher grade samples are slightly overestimated by the primary laboratory.

Although it is recommended that Golden Chalice further investigate the performance of the primary laboratory, it is SRK's opinion that the analytical results delivered by Laboratoire Experts Inc. are sufficiently reliable for the purpose of resource estimation.

#### **Mineral Resource Estimation**

The Mineral Resource Statement presented herein represents the first mineral resource evaluation for Langmuir W4 prepared in accordance with the Canadian Securities Administrators' National Instrument 43-101 and considers 69 core boreholes (22,152 metres) drilled by Golden Chalice during the period of 2007 to 2008. The resource estimation work was completed by Sebastien Bernier, P.Geo (OGQ#1034) and Glen Cole, P.Geo (APGO #1416), both "independent qualified persons" as this term is defined in National Instrument 43-101. The effective date of this resource estimate is April 28, 2010.

The database used to estimate the Langmuir W4 mineral resources was audited by SRK. In the opinion of SRK, the resource evaluation reported herein is a reasonable representation of the mineral resources found in Langmuir W4 at the current level of sampling. The mineral resources have been estimated in conformity with generally accepted CIM "Estimation of Mineral Resource and Mineral Reserves Best Practices" guidelines and are reported in accordance with the Canadian Securities Administrators' National Instrument 43-101. Mineral resources are not mineral

reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the mineral resource will be converted into mineral reserve.

The database includes downhole survey records for 663 intervals, 1,664 lithology intervals and 5,788 sample intervals with assay results for gold, platinum and palladium (in parts per billion, "ppb") as well as for silver, copper, nickel, zinc, lead and cobalt (in parts per million, "ppm"). The database also includes a specific gravity dataset comprising 90 records.

SRK constructed a series of 3D wireframes for lithologies and the nickel sulphide mineralization. Three nickel grade thresholds (low grade: 0.3 to 0.5 percent nickel, medium grade: 0.5 to 1.0 percent nickel and high grade: >1.0 percent nickel) were used to sub-divide the sulphide mineralization into resource domains and these were used as hard boundaries for mineral resource estimation. The final shape and extent of the sulphide mineralization wireframes was a collaborative effort between Golden Chalice and SRK.

After review, SRK composited all assay data to one metre lengths and sub-divided the sulphide mineralization into three grade domains for geostatistical analysis and grade estimation and seven sub-domains for variography. Appropriate top cuts were selected for each metal in each domain after review of cumulative probability curves. Variography was conducted for nickel, copper and cobalt in each domain. Variography was completed on capped composited domainal data to generally produce two structure isotropic variograms (within the X-Y plane). Nickel, copper and cobalt grades were estimated in each of the domains separately using ordinary kriging, with estimation parameters derived from variography. Platinum and palladium grades in all three domains were estimated using an inverse distance algorithm. Two estimation passes were used for assigning grades to each domain, considering appropriate estimation parameters and search neighbourhood sizing.

Parent block model size was set at five by five by five metres, which were sub-blocked within Datamine Studio Version 3 to ensure that wireframe volumetrics were honoured.

Mineral resources for the Langmuir W4 deposit were classified according to the CIM Definition Standards for Mineral Resources and Mineral Reserves (December 2005) by Sebastien Bernier, P.Geo (OGQ#1034) and Glen Cole, P.Geo (APGO#1416), appropriate independent qualified persons for the purpose of National Instrument 43-101. The mineral resources are classified as Indicated and Inferred, primarily based on block distance from the nearest informing composites and on variography results. Classification is based on nickel data alone.

The "reasonable prospects for economic extraction" requirement generally implies that the quantity and grade estimates meet certain economic thresholds and that the mineral resources are reported at an appropriate cut-off grade taking into account extraction scenarios and processing recoveries. To meet this requirement, SRK considers that major portions of the shallow Langmuir W4 nickel mineralization are amenable for open pit extraction, while deeper portions could be extracted using an underground mining method.

In order to determine the quantities of material offering "reasonable prospects for economic extraction" by an open pit, SRK used the Lerchs-Grossman optimizing algorithm within Whittle to evaluate the profitability of each resource block and adjusted optimization parameters in collaboration with Golden Chalice and by benchmarking with similar projects. The optimization also considered conceptual metallurgical recoveries and a nickel price of US\$8 per pound. The conceptual pit shell drives to a maximum depth of 170 metres below the surface. Resource blocks

above this depth were considered by SRK to be amenable to open pit extraction and blocks below this depth amenable to underground mining methods and are reported as such.

The mineral resources were reported on the basis of nickel content only. Copper, cobalt and platinum and palladium grades were estimated in the block model, however, cobalt and platinum and palladium do not contribute significantly to the value of the nickel sulphide mineralization. Open pit mineral resources are reported at a cut-off of 0.40 percent nickel, whereas underground mineral resources are reported at 0.70 percent nickel.

Mineral Resource Statement for Langmuir W4 is summarized in Table i.

Category	Quantity	Grade		Metal	
	Tonnes	Ni	Cu	Ni	Cu
		%	%	lbs 000's	lbs 000's
Open Pit**					
Indicated	590,000	0.99	0.06	12,816	840
Inferred	125,000	0.88	0.06	2,437	157
Underground **					
Indicated	87,000	1.04	0.08	1,997	149
Inferred	46,000	0.91	0.05	923	53
Combined					
Indicated	677,000	1.00	0.06	14,813	989
Inferred	171,000	0.89	0.06	3,360	210

# Table i. Consolidated Mineral Resource Statement\*, Langmuir W4Project, Ontario, SRK Consulting, April, 28 2010

\* Mineral resources are reported in relation to optimized pit shells. Mineral resources are not mineral reserves and do not have demonstrated economic viability. All figures are rounded to reflect the relative accuracy of the estimate. All assays have been capped where appropriate.

\*\* Open pit mineral resources are reported at a cut-off of 0.40 percent nickel inside a conceptual pit shell. Underground mineral resources are reported at 0.70 percent nickel and include resource blocks above cut-off outside the conceptual pit shell. Cut-off grades are based on a nickel price of US\$8 per pound and a metallurgical recovery of eighty-seven percent, without considering revenues from other metals..

### **Conclusions and Recommendations**

Since commencing exploration on the Langmuir Property in 2005, Golden Chalice has implemented a focused and innovative multi-phase exploration program targeting Kambalda style nickel mineralization in the ultramafic flow stratigraphy on the property. Airborne VTEM anomaly delineation follow-up drilling led to the significant intersection in drill hole GCL07-06 in the Langmuir W4 area, which provided the incentive for the subsequent drilling program of 69 drill holes (for 22,152 metres) in the Langmuir W4 area, which is the source of the data upon which this resource estimate is based.

The experienced Golden Chalice exploration team used industry best practices to acquire, manage and interpret exploration data collected for the Langmuir W4 Project. The mineral resources for Langmuir W4 have been evaluated in a systematic and professional manner. The mineral resource evaluation reported herein is reported according to CIM "Definition Standards for Mineral Resources and Mineral Reserves" (December 2005).

The mineral resource statement prepared by SRK reflects current knowledge of the Langmuir W4 nickel mineralization continuity and associated grade trends. Data

density decreases with depth, providing an opportunity to upgrade the resources especially in the deeper portion of the ore body (>170 metres) by increasing the drilling density as well as by increasing our understanding of the structural geology framework upon which the Langmuir W4 deposit is based. A revised structural geology based resource model that could result will not only lead to upgraded resources, but also to reduced risk in future mining decisions based on this model.

In a relatively short period of time, Golden Chalice has made an exciting new nickel sulphide discovery in the Shaw Dome and have delineated by drilling a substantial sulphide deposit supporting the disclosure of an initial mineral resource statement containing 677,000 tonnes grading an average of 1.00 percent nickel and 0.06 percent copper in the Indicated category; with an additional 171,000 tonnes grading an average of 0.89 percent nickel and 0.06 percent copper in the Inferred category comprising both open pit and underground resources. SRK notes that these mineral resources occupy only a small footprint of the larger Golden Chalice controlled Langmuir Property.

The characteristics of Langmuir W4 are of sufficient merit to justify undertaking preliminary engineering, environmental and metallurgical studies aimed at completing the characterization of the nickel sulphide mineralization. This would provide a snapshot assessment of the current information base at Langmuir W4, which can provide economic guidelines for future exploration strategies within the Langmuir Property.

The geological setting and character of the nickel sulphide mineralization delineated to date on Langmuir W4 are of sufficient merit to justify additional exploration and development expenditures. A work program recommended by SRK has two parts: Firstly to continue the exploration of the known sulphide mineralization and secondly to commence with characterization of the deposit, in preparation for evaluating the feasibility of a mine project. The proposed work program includes three components:

- Infill and step-out drilling to expand the mineral resources and improve resource classification;
- Geological studies and enhanced exploration procedures aimed at improving the understanding of the geological setting of the deposit; and
- Mine design, metallurgical and environmental studies to support the design of a conceptual mine and to provide key assumptions for the base case of an economic model considered for a Preliminary Economic Assessment.

The total cost for the recommended overall work program is estimated at approximately CN\$2.9 million.

#### Page x

## **Table of Contents**

Ex	Introd Prope Loca Histo Geole Explo Samp Data Mine	iiiductionerty Description and Agreementsiiition, Access and Physiographyiiioryoryory and Mineralizationivoration and Drillingivpling Method, Approach and Analysesviral Resource Estimationviclusions and Recommendationsviii
Та	ble o	f Contents x
		Tablesxii
Li	st of I	Figuresxiii
1	Intro 1.1 1.2 1.3 1.4 1.5 1.6 1.7	Deduction and Terms of Reference1Background of the project1Scope of work1Work program2Basis of the Technical Report2Qualifications of SRK3Site Visit3Acknowledgements4
2	Decl	aration and Reliance on other Experts5
3	<b>Prop</b> 3.1 3.2 3.3 3.4	Derty Description and Location6Land Tenure6Underlying Agreements9Permits and Authorizations9Environmental Considerations9
4	and	essibility, Climate, Local Resources, InfrastructurePhysiography10Accessibility10Local Resources and Infrastructure10Climate10Physiography11
5	<b>Hist</b> 5.1 5.2	ory13Previous Exploration Work13Previous Mineral Resource Estimates14
6	6.1 6.2	Iogical Setting15Regional Geology15Geology of the Langmuir Property19Geology of the Langmuir W4 Deposit19
	6.3	Coolegy of the Langinan WT Deposition

8 Mineralization	25
<ul> <li>9 Exploration</li> <li>9.1 Golden Chalice Exploration Work (2005 to 2010)</li> <li>9.2 Future Exploration Work</li> </ul>	. 28
<b>10 Drilling</b> 10.1 Surveying 10.2 Drilling Pattern and Density 10.3 Field Procedures	. 34 . 34
<b>11 Sampling Approach and Methodology</b> 11.1 SRK Comment	
<ul> <li>12 Sample Preparation, Analyses and Security</li></ul>	. 38 . 38 . 39 . 40
<ul> <li>13.1 Verification by Golden Chalice</li> <li>13.2 Verification by SRK</li></ul>	. 41 41
14 Adjacent Properties	47
15 Mineral Processing and Metallurgical Testing	49
<ul> <li>16 Mineral Resource and Mineral Reserve Estimates</li> <li>16.1 Introduction</li> <li>16.2 Resource Estimation Procedures</li> <li>16.3 Resource Database</li> <li>16.4 Solid Body Modelling and Sub-Domain Definition</li> <li>16.5 Compositing</li> <li>16.6 Evaluation of Outlier Assays</li> <li>16.7 Statistics</li> <li>16.8 Resource Estimation Methodology</li> <li>16.9 Variography</li> <li>16.10 Grade Interpolation</li> <li>16.12 Estimation Validation</li> <li>16.13 Mineral Resource Statement</li> </ul>	. 50 . 51 . 52 . 52 . 54 . 55 . 60 . 60 . 62 . 63 . 66
17 Other Relevant Data	
18 Interpretation and Conclusions	
19 Recommendations	
20 References	
APPENDIX B	

APPENDIX D	92
APPENDIX E	95

## **List of Tables**

Table i. Consolidated Mineral Resource Statement*, Langmuir W4 Project,Ontario, SRK Consulting, April, 28 2010
Table 1: Classification of Mineralization Types in Komatiite-Associated         Magmatic Ni-Cu-PGE Deposits (modified from Lesher and         Keays, 2002).
Table 2: Summary of Exploration on Langmuir W4 During 1964 to 200829
Table 3: Golden Chalice Drilling on the Langmuir Property32
Table 4: Assaying Specifications* for Control Samples         40
Table 5: Comparative Analyses from the SRK Assay Verification Study42
Table 6: Summary of Analytical Quality Control Data Produced By Golden           Chalice on the Langmuir W4 Project44
Table 7: Reported Nickel Production from Mines Adjacent to Langmuir W4Area to the End of 2009 (Atkinson, 2010)48
Table 8: Redstone Plant Metallurgical Performance (SRK, 2009)49
Table 9: Basic Statistics of Drill hole Samples for Langmuir W4
Table 10: Capping Levels for Each Metal Applied In Each Domain
Table 11: Basic Statistics of the Original Assays in Domains 0.3, 0.5 and         1.0
Table 12: Basic Statistics of the Composite Data in Domains 0.3, 0.5 and         1.0
Table 13: Statistics of the Capped Composite Data in Domains 0.3, 0.5         and 1.0
Table 14: Langmuir W4 Block Model Parameters60
Table 15: Variogram Parameters for Langmuir W4 Domains 0.3, 0.5 and         1.0       61
Table 16: Langmuir W4 Resource Estimation Parameters    62
Table 17: First Pass Search Parameters Used for Grade Estimation62
Table 18: Conceptual Pit Optimization Assumptions Considered for Open           Pit Resource Reporting
Table 19: Consolidated Mineral Resource Statement*, Langmuir W4         Project, Ontario, SRK Consulting, April, 27 2010
Table 20: Mineral Resource Statement*, Langmuir W4 Project, Ontario,SRK Consulting, April, 27 201067
Table 21: Block Model Quantities and Grade Estimates* for Potential OpenPit and Underground Material
Table 22: Block Model Quantities and Grade Estimates* for Combined         Potential Open Pit and Underground Material         70

 Table 23:
 Estimated Budget for the Langmuir W4 Exploration Program
 76

## **List of Figures**

Figure 1: Location of the Langmuir W4 Project7
Figure 2: Langmuir W4 Project Land Tenure Map8
Figure 3: Typical Summer (A) and Winter (B) Landscape within the Langmuir W4 Project area12
Figure 4: Simplified regional geological setting of the Abitibi Belt17
Figure 5: Regional Geology of the Shaw Dome (modified from Houle and Hall, 2007)18
Figure 6: Property Geology of the Langmuir Project Area (modified from Houle and Hall, 2007) showing the Langmuir W4 deposit in relation to other Shaw Dome Nickel deposits and the Golden Chalice Langmuir Property boundary20
Figure 7: Map showing the distribution of magmatic Ni-Cu-PGE sulphide deposits in Canada, with resources greater than 100,000 tonnes (after Wheeler et al, 1996)21
Figure 8: Typical Langmuir W4 Deposit nickel mineralization styles26
Figure 9: Cross section of across Langmuir W4 showing downhole nickel histograms within modelled sulphide mineralization domains. Looking east27
Figure 10: Location Map of the Langmuir Property Drilling Areas
Figure 11: Collar Location of Resource Drilling within the Langmuir W4 Project Area
Figure 12: Histogram of sampled lengths for Langmuir W4 Project core samples
Figure 13: Histogram and Basic Statistics of the Combined Specific Gravity Dataset for Langmuir W440
Figure 14: Graph showing comparative nickel and copper percent assays for Laboratoire Expert Inc. and SGS Minerals Laboratories43
Figure 15: Bias Charts and Precision Plots for Pulp Duplicate Sample Pairs assayed by Laboratoire Expert and SGS Minerals46
Figure 16: Model of modelled sulphide domains (high grade=red, medium grade=blue and low grade=yellow) in relation to litho-coded drill holes and overburden surface. View looking south
Figure 17: Nickel Basic statistics in Domain 0.3 for the original assay data (top), the composited assays (middle) and the capped composited assays (bottom)
Figure 18: Nickel basic statistics of the in Domain 0.5 for the original assay data (top), the composited assays (middle) and the capped composited assays (bottom)
Figure 19: Basic statistics of the Ni in Domain 1.0 for the original assay data (top), the composited assays (middle) and the capped composited assays (bottom)

Figure 20: Sample nickel variograms for Domain 0.5. A: isotropic variogram for the X-Y plane; B: Variogram in the Z-plane	61
Figure 21: Schematic Vertical Section Illustrating Langmuir W4 Block Model Classification. View Looking South	63
Figure 22: Longitudinal Sections showing the Modelled Nickel Domains in relation to the Conceptual Pit Shell. A=View Looking South, B=View looking East	65
Figure 23: Comparative Grade Tonnage Curves for Indicated and Inferred Material: Top = Open pit material and Below = Underground mining material	69

## **1** Introduction and Terms of Reference

### 1.1 Background of the project

The Langmuir W4 Project ("Langmuir W4") is an advanced mineral exploration project located about 35 kilometres southeast of Timmins, Ontario. The project is owned by Golden Chalice Resources Inc. ("Golden Chalice"), a Toronto Securities Exchange listed company (TSX-V:GCR) and a member of the Hughes Exploration Group.

Recent drilling activity on this property has delineated significant Kambaldastyle nickel-copper sulphide zones that are being evaluated for their open pit and underground mining potential. A drilling program initiated in 2007 designed to test VTEM clusters led to the discovery of the Langmuir W4 deposit. A significant intersection of 1.14 percent nickel over 72.50 metres in drill hole GCL07-06, led to a significant drilling program (69 drill holes for 22,152 metres) on Langmuir W4 in 2007 and 2008. The komatiite-hosted sulphide mineralization is similar to other nickel deposits within the Shaw Dome in the Timmins area.

Golden Chalice approached SRK Consulting (Canada) Inc. ("SRK") in January 2010 to prepare an initial mineral resource evaluation for Langmuir W4 sulphide deposits. During February 2010, SRK audited the exploration database. This was followed by the generation of a geological model and resource estimate in March and April 2010. A mineral resource statement and an accompanying technical memorandum were issued to Golden Chalice on 28 April 2010. It formed the basis for a press release issued by Golden Chalice on May 19, 2010 to disclose publically the initial mineral resource statement for Langmuir W4.

This technical report describes the mineral resource model constructed for Langmuir W4. This is the first resource model for Langmuir W4 prepared following the guidelines of the Canadian Securities Administrators National Instrument 43-101 and Form 43-101F1, and in conformity with generally accepted CIM "Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines".

#### 1.2 Scope of work

The scope of work, as defined in a proposal presented to Golden Chalice on January 14, 2010, includes the audit of the exploration database, the construction of a mineral resource model for the sulphide mineralization zones delineated by drilling on Langmuir W4 and the preparation of an independent technical report in compliance with National Instrument 43-101 and Form 43-101F1 guidelines. This work typically involves an assessment of the following of this project:

- Topography, landscape, access;
- Regional and local geology;

- History of exploration work in the area;
- Audit of exploration work carried out by Golden Chalice;
- Geological modelling;
- Mineral resource estimation;
- Validation; and
- Exploration potential and recommendations for additional work.

#### 1.3 Work program

The resource estimation work program commenced with an audit of the Langmuir W4 exploration database in February 2010. SRK was provided with a comprehensive digital data package including drill logs, project reports, geology maps and sections, drill files, assay certificates and analytical quality control data. The findings of the audit, which included recommendations, were presented by SRK to Golden Chalice on February 23, 2010.

SRK conducted a site visit on March 18 and 19, 2010. Subsequent to this, representatives from Golden Chalice and SRK met on several occasions to discuss exploration data, geological modelling and resource estimation.

The preparation of the initial mineral resource statement for Langmuir W4 was a collaborative effort between SRK and Golden Chalice. During this period, SRK had discussions with Golden Chalice staff on various aspects of the process. Golden Chalice in particular was responsible for providing 2D interpretative geological sections across the project area and the validated dataset for the estimation. The 3D geological / mineralization model of the Langmuir W4 was developed during March 2010, while the resource modelling work was undertaken in April 2010.

A technical memorandum summarizing the work completed by SRK and containing the Mineral Resource Statement presented to Golden Chalice was dated 28 April 2010. Golden Chalice disclosed the Mineral Resource Statement publicly in a news release dated May 19, 2010.

The technical report was assembled in June 2010. All modelling, estimation and reporting was undertaken at the SRK offices in Toronto and Sudbury.

#### 1.4 Basis of the Technical Report

This report is based on information provided to SRK by Golden Chalice and from information collected by SRK during a site visit completed in March 2010.

Golden Chalice contributed significantly to this technical report, providing information and illustrations for the final document. Other information was obtained from the public domain.

SRK conducted certain verifications to ensure the reliability of exploration data collected by Golden Chalice. SRK has no reason to doubt the reliability of the information used to evaluate the mineral resources presented herein. This technical report is based on the following sources of information:

- Discussions with Golden Chalice exploration personnel;
- Personal inspection of the Langmuir W4 project and surrounding areas;
- Inspection of drill core;
- Review of exploration work conducted by Golden Chalice;
- Project data acquired from Golden Chalice; and
- Additional information obtained from public domain sources.

#### 1.5 Qualifications of SRK

The SRK Group comprises almost 900 professionals, offering expertise in a wide range of resource engineering disciplines. The SRK Group's independence is ensured by the fact that it holds no equity in any project and that its ownership rests solely with its staff. This permits SRK to provide its clients with conflict-free and objective recommendations on crucial judgment issues. SRK has a demonstrated track record in undertaking independent assessments of Mineral Resources and Mineral Reserves, project evaluations and audits, technical reports and independent feasibility evaluations to bankable standards on behalf of exploration and mining companies and financial institutions worldwide. The SRK Group has also worked with a large number of major international mining companies and their projects, providing mining industry consultancy service inputs.

The resource evaluation and compilation of the technical report was completed by Sebastien Bernier, P.Geo (OGQ#1034) under the supervision of Glen Cole, P.Geo (APGO #1416). By virtue of their education, membership to a recognized professional association and relevant experience, Mr Bernier and Mr. Cole are independent Qualified Persons as this term is defined by National Instrument 43-101. Additional contributions were provided by Chantel Jollete, P.Geo, Lars Weiershäuser, P.Geo, Ashley Brown, P.Geo, Goran Andric, P.Eng and Dominic Chartier, P.Geo, all employees of SRK. Dr. Jean-François Couture, P.Geo (APGO#0197) reviewed this technical report.

Mr. Kevin Montgomery, P.Geo (APGO#0659), an Exploration Consultant retained by Golden Chalice, assisted with the compilation of Sections 3 to 6 and Sections 8 to 11 of this technical report.

Mr. Cole is a Principal Resource Geologist with SRK. He has been practicing his profession continuously since 1986 and has extensive experience in estimating mineral resources in North America as well as in Southern and West Africa. Mr. Cole visited the property on 18 to 19 March 2010.

Mr. Bernier is a Senior Resource Geologist with SRK. He has been practicing his profession since 2003. Mr. Bernier has not visited the property.

#### 1.6 Site Visit

In accordance with National Instrument 43-101 guidelines, Mr. Cole visited the Langmuir W4 area on 18 to 19 March 2010 accompanied by Peter

Caldbick (VP Exploration: Golden Chalice), Kevin Montgomery (Langmuir Project Manager) and other Golden Chalice field personnel.

The purpose of the site visit was to examine drill core, audit project technical data, interview project personnel and to collect all relevant information for the preparation of a mineral resource model and the compilation of a technical report. An additional objective of the site visit was to investigate the geological controls on the distribution of the sulphide mineralization in drill core to identify criteria for the construction of a 3D mineralization model.

SRK was given full access to relevant data and conducted interviews of Golden Chalice personnel to obtain information on the past exploration work, understand field procedures used to collect, record, store and analyze exploration data.

#### 1.7 Acknowledgements

SRK would like to acknowledge the support and collaboration provided by Golden Chalice personnel for this assignment. Their collaboration was greatly appreciated.

Mr. Peter Caldbick, P.Geo provided invaluable insight and direction to the project. Mr Kevin Montgomery, P.Geo, an independent consultant retained by Golden Chalice, was instrumental to the success of the project, providing project knowledge which enhanced the resource modelling process. Mr. Montgomery also provided the validated exploration dataset upon which this resource estimate is based. His contribution is gratefully acknowledged.

## 2 Declaration and Reliance on other Experts

SRK's opinion contained herein and effective April 28, 2010, is based on information provided to SRK by Golden Chalice throughout the course of SRK's investigations, which in turn reflect various technical and economic conditions at the time of writing. Given the cyclical nature of the mining business, these conditions can change significantly over relatively short periods of time. Consequently, actual results may be significantly more or less favourable.

This report includes technical information, which requires subsequent calculations to derive sub-totals, totals and weighted averages. Such calculations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, SRK does not consider them to be material.

SRK is not an insider, associate or an affiliate of Golden Chalice, and neither SRK nor any affiliate has acted as advisor to Golden Chalice or its affiliates in connection with this project. The results of the technical review by SRK are not dependent on any prior agreements concerning the conclusions to be reached, nor are there any undisclosed understandings concerning any future business dealings.

SRK has not performed an independent verification of land title and tenure as summarized in Section 3 of this report. SRK did not verify the legality of any underlying agreement(s) that may exist concerning the permits or other agreement(s) between third parties, but have relied on the client's solicitor Stephen W. Pearce in Vancouver regarding the ownership status of Langmuir W4.

Langmuir W4 is an undeveloped exploration project. Minimal surface disturbances have occurred within the project area arising primarily from surface exploration activities such as prospecting, soil sampling and drilling.

SRK was informed by Golden Chalice that there are no known litigations potentially affecting the project area.

## **3** Property Description and Location

The Langmuir Property is situated in Blackstock, Carman, Cody, Eldorado, Fallon, Langmuir, Macklem and Thomas Townships, Porcupine Mining Division, North-eastern Ontario. The centre of the property is approximately 30 kilometres southeast of the city of Timmins (Figure 1). It covers the eastern margin of Nighthawk Lake in Carman and Langmuir Townships and the southern portions of Langmuir and Eldorado Townships. The centre of the property is located at approximately 48 degrees 18 minutes North Latitude, 80 degrees 58 minutes West Longitude or UTM (NAD83 Z17) coordinates 5,350,000 mN and 502,000 mE. The property is accessed from the city of Timmins/South Porcupine by a series of all-weather gravel roads.

#### 3.1 Land Tenure

The Langmuir Property is comprised of 74 unpatented mining claims (856 claim units) in Blackstock, Carman, Cody, Eldorado, Fallon, Langmuir, Macklem and Thomas Townships. It is approximately 13,842 hectares in size and owned 100 percent by Golden Chalice. The details of the Langmuir Property claims are listed in Appendix A. A Plan showing the property mining claims is shown in Figure 2.

Under the Ontario Mining Act, Ontario Crown Lands can be staked by licensed individuals. The Act is administered by the Provincial Mining Recorder and Mining Lands divisions of the Ontario Ministry of Northern Development Mines and Forestry ("MNDM"). Each unpatented mining claim has to be physically staked and must consist of between one and a maximum of 16 square units, each nominally comprising 16 hectares (40 acres). Staked claims must be registered with the Ontario Provincial Mining Recorder within 31 days of staking and a specific fee must be paid. To remain valid, each claim has a minimum approved assessment work obligation of CN\$400 per unit per year due before the end of the second year after initial recording of the claim (anniversary date) and before the anniversary date of every year thereafter.

The unpatented mining claims were independently verified by SRK by checking the MNDM website (www.claimaps.mndm.gov.on.ca). As of the effective date of this technical report, all mining claims are valid with expiry dates ranging from November 1, 2010 to July 18, 2016 (see Appendix A).

The mineral resources for the Langmuir W4 sulphide deposit reported herein are all located on claim 4203498 within Langmuir Township (Figure 2).



Figure 1: Location of the Langmuir W4 Project

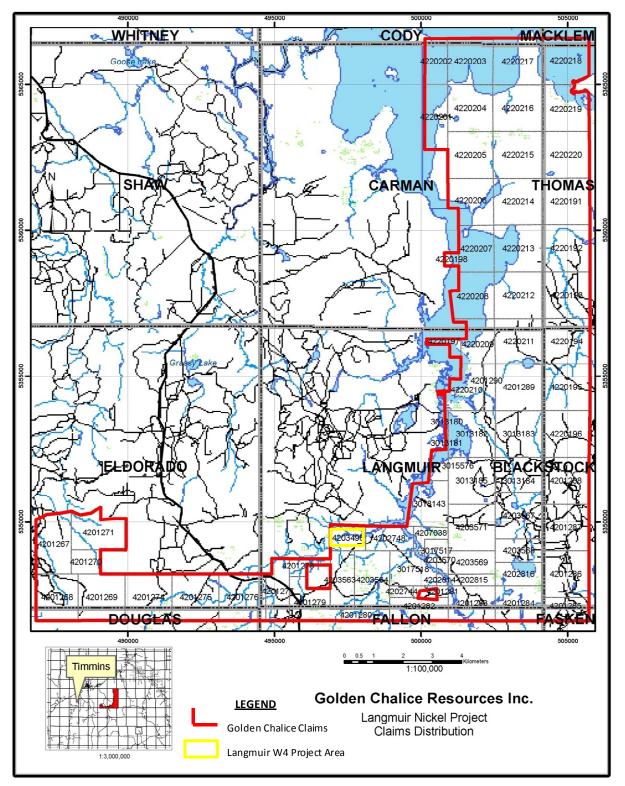


Figure 2: Langmuir W4 Project Land Tenure Map

### 3.2 Underlying Agreements

All claims forming the Langmuir Property were staked by contractors for Golden Chalice with the exception of claims 3017517 and 3017518 (15 claim units totalling 243 hectares). On July 13, 2004 Golden Chalice optioned claims 3017517 and 3017518 from Mr. David Healey (45 percent), Mr. Todd Keast (45 percent) and Kirnova Corp. (10 percent).

On October 14, 2004, Golden Chalice exercised the underlying option on the two claims after paying a total of CN\$5,000 in option payments and issuing 100,000 fully paid ordinary shares to the vendors. Golden Chalice presently owns 100 percent of the claims; however, the claim group is subject to a two percent net smelter return ("NSR"). A half percent (0.5 percent) NSR can be purchased from the vendors at any time for CN\$500,000. There is an area of interest clause within this agreement, which states that claims within a five kilometre radius of the property boundaries are also subject to the same NSR. Claim 4203498 on which the Langmuir W4 nickel deposit is located lies within the 'area of interest' and is thus subject to a two percent NSR.

The information relating to underlying agreements summarized here has been provided to SRK by Golden Chalice's solicitor Stephen W. Pearce in Vancouver.

#### 3.3 Permits and Authorizations

The type of exploration work conducted so far on the Langmuir Property by Golden Chalice did not require any permitting from Fisheries and Oceans Canada, the Ministry of Natural Resources, the Ministry of the Environment or the Ministry of Health.

#### 3.4 Environmental Considerations

Golden Chalice has not carried out any Environmental Baseline Studies on the Langmuir Property.

As the project advances, studies concerning the following components related to Environmental Assessment and permitting of Canadian mineral projects will be required:

- Groundwater;
- Soils and Vegetation;
- Terrestrial Wildlife;
- Rock Geochemistry Assessment (ARD);
- Archaeology, Cultural and Heritage Resources;
- First Nations Traditional Use Studies; and
- Socio-Economic Assessment.

As far as SRK can determined there are no known environmental liabilities associated with the Langmuir Project.

## 4 Accessibility, Climate, Local Resources, Infrastructure and Physiography

#### 4.1 Accessibility

The Langmuir Property is located within the boundaries of the city of Timmins, Ontario. The property is accessed by motor vehicle from south of the village of South Porcupine by a gravel road known as Stringers Road. This road cuts through the central western portion of the property. Approximately thirty kilometres southeast of Timmins on Stringers Road, a drill trail (all terrain vehicle/snowmobile accessible) branches off north-eastward. Approximately three kilometres along this trail, the Langmuir W4 location can be reached.

#### 4.2 Local Resources and Infrastructure

The full range of equipment, supplies and services required for any mining development is available in Timmins, which has a population of 48,000. The general Timmins area also possesses a skilled mining work force from which personnel could be sourced for any new mine development on the Langmuir Property. Abundant water resources are present in the lakes, rivers, creeks, and beaver ponds throughout the property. There would appear to be ample room on or about the property to build a mine and mill should this be required. Likewise, any number of locations would appear to offer potential to construct environmentally sound tailings disposal area(s). Regional power lines extend south of Timmins in close proximity to the property.

A nickel sulphide processing facility is located at the Liberty Mines Inc. ("Liberty") Redstone Mine, situated about five kilometres northwest of the Langmuir Property. This plant is designed to process up to 2,000 tonnes per day of high magnesium oxide ("MgO") Ni-Cu-PGE mineralization and was commissioned in July 2007. The plant was on care and maintenance between November 2008 and June 2009 but has since resumed production, processing nickel ore from Liberty's Redstone and McWatters mines. This facility may present potential processing options for Langmuir W4 sulphide mineralization, if required. This facility is very close to Langmuir W4 and the haulage distance would be approximately 13 kilometres.

#### 4.3 Climate

The property climate is warm and dry during the summer months from May through to September and cold and snowy from November to March. Temperature extremes range from summer highs of 30 degrees Celsius to winter lows of negative 30 degrees Celsius. Average winter temperatures are in the range of negative ten to negative twenty degrees Celsius and average summer temperatures are in the range of ten to twenty degrees Celsius. Annual precipitation is approximately 83 centimetres (32.6 inches) with an average of 60 centimetres of rain and 310 centimetres of snow. Average winter mean daily snow depths in the region are about 60 to 65 centimetres.

### 4.4 Physiography

The topography of the Langmuir Property comprises of flat to gently undulating relief with little outcrop exposure. Elevation ranges from 280 to 330 metres above sea level. The property also lies entirely within the Night Hawk Lake sub watershed.

The Langmuir W4 area is located in an area that is generally low-lying with few rock outcrops and ranges in elevation from 290 to 300 metres above sea level. It is relatively flat with poor drainage. The deposit location site naturally drains to the north into the Forks River. The Forks River drains north-easterly into the Night Hawk River which flows north-easterly into Night Hawk Lake. Night Hawk Lake in turn drains to the Frederickhouse River. The Frederickhouse River drains to the Abitibi River (north of Cochrane) then to Moose River, which ultimately discharges into James Bay.

The vegetation is a boreal forest combination of black spruce, jack pine, alders and white birch found in lowland areas with poplar, white birch and jack pine found on slightly higher ground.

Figure 3 illustrates the typical landscape and associated vegetation around the Langmuir W4 area. The wildlife found in the area is typical of other poorly drained northern boreal forest areas. Several species of small mammals and songbirds are found within the Langmuir Property. Moose populations in the area are low to moderate. Furbearers in the vicinity include beaver, marten, mink, muskrat, fox, lynx and black bear. More scarce animal types include the snowshoe hare, fisher and wolf.



Figure 3: Typical Summer (A) and Winter (B) Landscape within the Langmuir W4 Project area

## 5 History

The Langmuir Township area has received significant exploration interest over the past century. Recent exploration initiatives have focused on nickel exploration, as the area is host to well documented komatiite associated nickel mineralization. The existence of nickel deposits as the Langmuir No. 1, Langmuir No. 2, Redstone and McWatters in the area has fuelled the recent increase in nickel exploration in the area. This recent exploration has lead to the discovery of the Hart deposit by Liberty and the Langmuir W4 deposit by Golden Chalice.

### 5.1 Previous Exploration Work

Ontario Government sponsored work on the Langmuir Township has included a 1967 mapping program of the Langmuir and Blackstock Townships (Pyke, 1970) and a 1988 airborne electromagnetic and magnetic survey over the Timmins Area, which included the Langmuir Township, by the Ontario Geological Survey. Recent work has included geological mapping of the Carman and Langmuir Townships in 2004 (Houlé and Guilmette, 2005). The 2007 government sponsored Bartlett Dome MEGATEM II survey encompassed the Langmuir W4 area.

Exploration work conducted, prior to Golden Chalice, at the Langmuir W4 area is summarized below from research of the Timmins Resident Geologist's Assessment files, located at the Ontario government complex office in South Porcupine. Previous exploration work on the remainder of the Langmuir Property will not be detailed in this report.

1964-1965: Min-Ore Mines Limited held 12 unpatented mining claims south of McWatters Gold Mines Limited 1964 nickel discovery. In December 1964, ground magnetic and electromagnetic ("EM") surveys were carried out on the property. The EM survey detected two conductive zones that were located immediately east and west of the current Langmuir W4 deposit. A short AXT core size drill hole was drilled into the westernmost EM conductive zone, the weaker of the two conductors. The drill hole intersected fine sulphide mineralization but only two drill core samples were sent for analysis, which returned no significant metal values.

1965: G.E. Cooper drilled one drill hole (154 metres) north of the Fork River and Langmuir W4. The drill hole intersected felsic to intermediate volcanic rock, with no sulphide mineralization.

1970: Yellowknife Base Metals Limited conducted a three drill hole program (803 metres) in the area of Langmuir W4. The drill holes intersected ultramafic rock with minor volcanic tuffs and graphitic units. No records of assaying are available.

1980-81: Utah Mines Ltd. optioned nine leased mining claims from A.B. McLennan on January 30, 1980 (northern half) and an additional twelve claims were staked (southern half) to create their Forks River Property. A ground

magnetic survey was conducted by Utah Mines personnel over a 64 line km grid in January 1981. During the summer of 1981, this grid was mapped by Duncan McIvor and P Ramsay of Utah Mines Ltd. They mapped a 30 by 70 metre outcrop knoll of serpentinized ultramafic volcanic rock in the centre of the Langmuir W4 area. Four ultramafic rock samples were collected from the outcrop knoll and returned assays ranging from 0.12 to 0.21 percent nickel. Subsequently in October and November 1981, a four drill hole diamond drilling program for 332 metres was completed on the property. The first two holes (FR81-1, 63 m deep and FR81-2, 84 metres deep) were drilled from north to south in the centre of the Langmuir W4. Both holes intersected peridotite with graphite units with FR81-1, the southernmost of the two, terminating within dacitic quartz-feldspar porphyry. The assessment drill logs of the two holes indicate only five drill core samples were sent for nickel analysis and returned up to 0.15 percent nickel. The remaining two drill holes of the drill program were drilled along strike and west of the Langmuir W4 area.

1987: Canadian Nickel Company conducted an airborne electromagnetic survey of Eldorado and Langmuir Townships that covered the Langmuir W4 area. No EM conductors were detected in the area.

#### 5.2 Previous Mineral Resource Estimates

Golden Chalice commissioned two internal mineral resource estimates for Langmuir W4 in 2009. These internal unclassified resource estimates were not prepared following National Instrument 43-101 guidelines and should not be relied upon.

## 6 Geological Setting

### 6.1 Regional Geology

The regional geology discussion below has been modified from information in SRK (2010b). The Langmuir W4 is hosted by ultramafic rocks that form part of, or intrude, the Tisdale assemblage that flank the Shaw Dome and form part of the Abitibi greenstone belt ("AGB"). The AGB is one of the youngest parts of the Achaean Superior Province forming what is considered one of the largest and best-preserved belts of its kind in the world. The AGB developed between 2.8 to 2.6 Ga (Jackson and Fyon, 1991) and has been subdivided in nine lithotectonic assemblages (Ayer et al., 2002; Sproule et al., 2002). The AGB, when compared to all other Archean sub provinces of the Achaean Superior Province, is uniquely well endowed with metallic mineral deposits including the mining areas of Timmins (base metals and gold), Kirkland Lake (gold), Val d'Or (gold and base metals), and Noranda (base metals and gold).

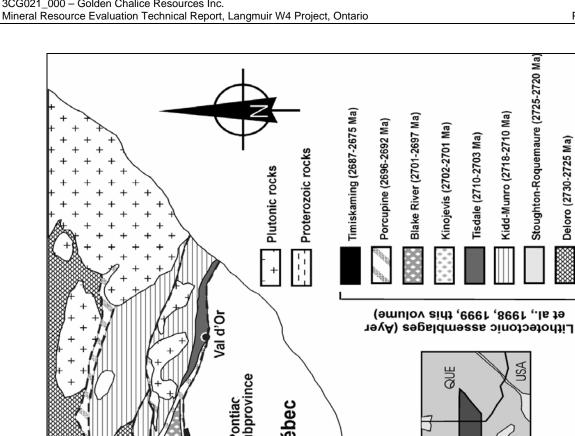
Even though the AGB has been subdivided into nine distinct lithotectonic assemblages, only four of these are generally accepted to contain komatiitic rocks and therefore considered prospective for ultramafic-hosted Ni-Cu-(PGE) sulphide deposits. These four assemblages have distinct and well defined ages as well as spatial distribution (Figure 4): the Pacaud assemblage (2750-2735 Ma), the Stoughton-Roquemaure assemblage (2723-2720 Ma), the Kidd-Munro assemblage (2719-2711 Ma), and the Tisdale assemblage (2710-2703 Ma). These four assemblages differ considerably in the physical volcanology and geochemistry of the komatiitic flows. It is important to note that the latter two of these assemblages contain larger volumes of high magnesium, Al-undepleted komatiite (> five percent), while the Tisdale assemblage contains more andesitic rocks and sulphide facies iron formation (Sproule et al., 2003).

The Shaw Dome is a major anticline centred approximately 20 kilometres southeast of Timmins, Ontario (Muir, 1979; Green and Naldrett, 1981; (Figure 5). The anticlinal structure may be a result of regional folding that affected rocks north of the Shaw Dome or, more probably, due to the diapiric action of a large granitic body which partially outcrops in the central south-east portion of the dome. Volcanic rocks associated with the Shaw Dome have been associated with the Deloro assemblage (2730 to 2725 Ma: Ayer et al., 1999) and younger Tisdale assemblage. Pyke (1982) further sub-divided these assemblages into three volcanic formations: lower, middle, and upper volcanic formations. The lower formation of the Deloro assemblage is not exposed in the Shaw Dome, while the middle formation occupies the central part of the Dome north of the Redstone mine. The upper volcanic formation of the Deloro was described by Pyke (1982) to contain a relative abundance of sulphide facies iron formations and a predominance of intermediate to felsic volcanic rocks of dacitic to andesitic composition. Pyke (1982) does not mention the presence of extrusive komatiitic rock in this assemblage having mapped all of the ultramafic rocks contained within this supracrustal package as intrusive in nature (Pyke, 1970, 1975). Pyke (1982) does, however, add that "there is some intercalation of the komatiite (of the Tisdale assemblage) with the Deloro Group volcanic rocks". Since, both intrusive and extrusive

ultramafic rocks have been identified within the Deloro volcanic package (Hall & Houle, 2003; Houle et al., 2004; Houle & Guillmette, 2005) outlined by Pyke (1982). Therefore, either the assumption that the Deloro assemblage is devoid of komatiitic flows needs to be revised or the disconformity that delineates the contact between Deloro and Tisdale rocks modified.

Stone & Stone (2000) divided the komatiitic rocks into two horizons making no reference to stratigraphy: the lower komatiitic horizon ("LKH") and the upper komatiitic horizon ("UKH"). The UKH consists of extrusive komatiitic rocks intercalated with calc-alkalic volcanic rocks and sulphide facies iron formations, while the LKH consists of komatiitic rocks that intrude the underlying felsic to intermediate volcanic flows and interbedded iron formations. The rocks that form the LKH are mostly dunites, whelrlites, pyroxenites, and gabbros that intruded sometime between 2,725 Ma and 2,707 Ma (Stone & Stone, 2000 and references therein). The UKH rocks are cumulate, spinifex textured and aphyric komatiite that extruded sometime before 2,703 Ma (Corfu et al., 1989). The UKH komatiitic intrusions are interpreted to represent part of the feeder system that resulted in the eruption of channelized komatiitic flows that are, at least initially, cogenetic and form what is now a large dyke-sill-lava complex. Observations and interpretations by Stone & Stone (2000) are supported by later mapping of the Adams, Shaw, Langmuir, and Carman Townships by Houle et al. (2004) and Houle & Guillmette (2005).

To date five Ni-Cu-(PGE) deposits have been documented in the Shaw Dome (Redstone, Hart, McWatters, Langmuir No.1, Langmuir No.2), and numerous showings have been identified. These five deposits occur in komatiitic rocks found within the Deloro assemblage near the base of the Tisdale assemblage. The Langmuir W4 deposit is similar to these, representing a new discovery in the Shaw Dome.



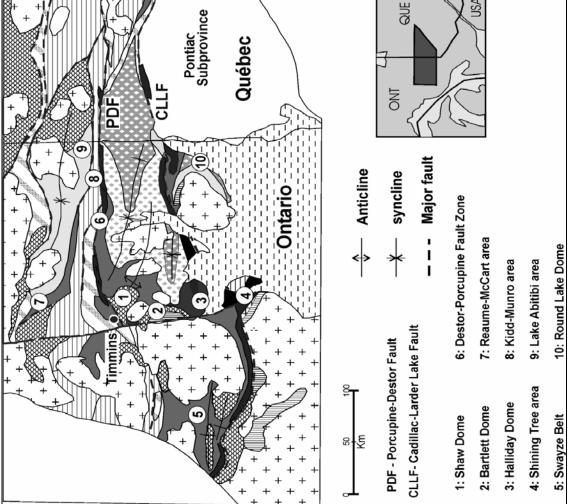
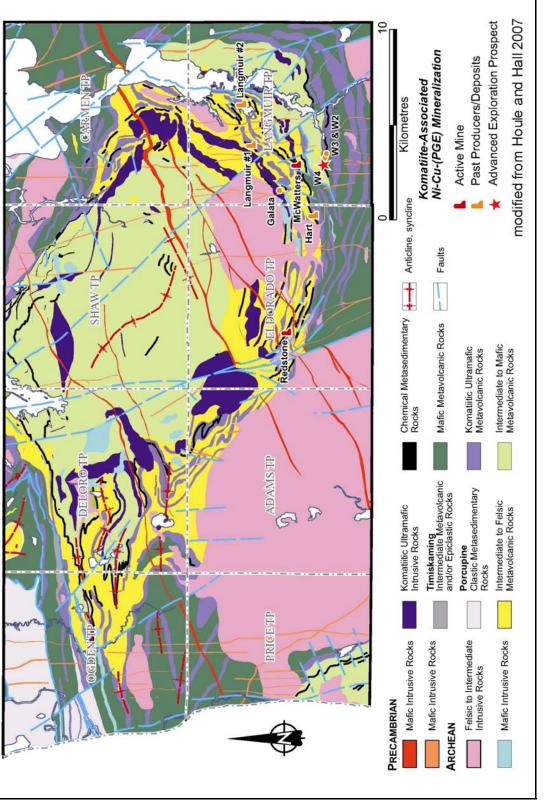
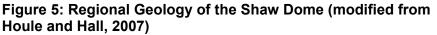


Figure 4: Simplified regional geological setting of the Abitibi Belt

Golden\_Chalice\_Langmuir\_W4\_Resource\_Estimation\_3CG021.000\_SB\_GC\_DC\_JFC\_ab\_20100628\_1.doc

Pacaud (2750-2735 Ma)





### 6.2 Geology of the Langmuir Property

The Langmuir Property is predominantly underlain by the middle and lower formations of the Tisdale Group which consist of linear sequences of mafic volcanic units or ultramafic units (Figure 6). These linear sequences trend east-west in the southern portion of Eldorado and Langmuir Township and then swing north-south along the eastern halves of Langmuir and Carman Townships. The ultramafic sequences consist of mesocumulate to adcumulate peridotite flows with distinct spinifex textured flow tops. The flow tops indicate younging to the south. Graphitic argillite units are locally present between the peridotite flows. The mafic sequences consist of massive to pillowed basalt-andesite flows. The mafic-ultramafic sequences are locally intruded by north trending Matachewan diabase dykes and north-east trending Abitibi diabase dykes. Felsic intrusive bodies also intrude the sequences with the largest being a monzonite body in the southeast corner of Langmuir Township. The volcanic stratigraphy is cross cut by a major regional northwest trending fault "Montreal River Fault", just east of the Nighthawk River.

#### 6.3 Geology of the Langmuir W4 Deposit

The Langmuir W4 deposit is interpreted by Golden Chalice geologists to consist of three sub-parallel nickel mineralized zones hosted by komatiitic peridotite flows. These east-west trending peridotite flows have good spinifex flow tops and associated thin graphitic argillite interflow units. The peridotite flows are typically black, fine-grained, soft, weak to moderately serpentinized and typically have adcumulate to mesocumulate textures. Detailed examinations of the spinifex flow top sequences and flow morphologies indicate the flows have a southward younging direction. The peridotite flows range from five to 50 metres thick and are near vertical to steeply dipping 80 degrees to the north.

Immediately south of the peridotite flows in the Langmuir W4 area, a pink medium grained hornblende rich (five to 10 percent) granodiorite has intruded. It is thought that this intrusive rock may represent an east-west dyke. This dyke appears to have a shallow north dip of 50 degrees and appears to cut off the vertical dipping south facing peridotite flows. The peridotite flows in the vicinity of the granodiorite are strongly brecciated and often contain graphite. Smaller felsic to intermediate, feldspar porphyry, mafic, and gabbro dykes or sills intrude the peridotite flows locally.

The three interpreted sub-parallel nickel mineralized zones occur within specific komatiitic peridotite flow units. They are vertical to steeply north dipping at 70 to 75 degrees. The so called 'C zone' is the deepest occurring zone which is locally steeply south dipping. The east-west strike extent of the zones has been defined for at least 200 metres to date. They are open below the granodiorite dyke and/or a vertical depth of 400 metres. The interpreted sub-parallel nickel mineralized zones have an average true thickness of 5.5 to seven metres.

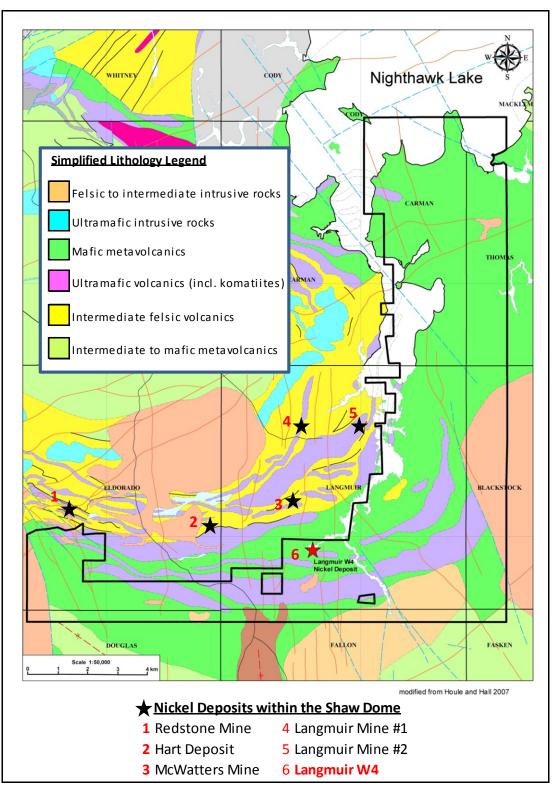


Figure 6: Property Geology of the Langmuir Project Area (modified from Houle and Hall, 2007) showing the Langmuir W4 deposit in relation to other Shaw Dome Nickel deposits and the Golden Chalice Langmuir Property boundary

## 7 Deposit Types

The distribution of magmatic nickel-copper-platinum group metal sulphide deposits within Canada, with a resource size greater than 100,000 tonnes is illustrated in Figure 7. The Langmuir W4 nickel sulphide deposits are hosted by komatiitic rocks.

Considerable research by various writers over the years indicates that komatiite hosted nickel deposits in the Timmins area are similar to the Achaean age nickel deposits of the Kambalda and Windarra areas in Western Australia. Komatiite-hosted Ni-Cu-PGE deposits are one of several lithological associations within the broader group of magmatic Ni-Cu-PGE deposits. Mineralization occurs in both extrusive and intrusive settings and experimental studies indicate that komatiitic magmas/lavas were emplaced at very high temperatures. Deposits of this association are mined primarily for their Ni contents, but they contain economically-significant amounts of Cu, Co, and PGE (Lesher & Keays, 2002).

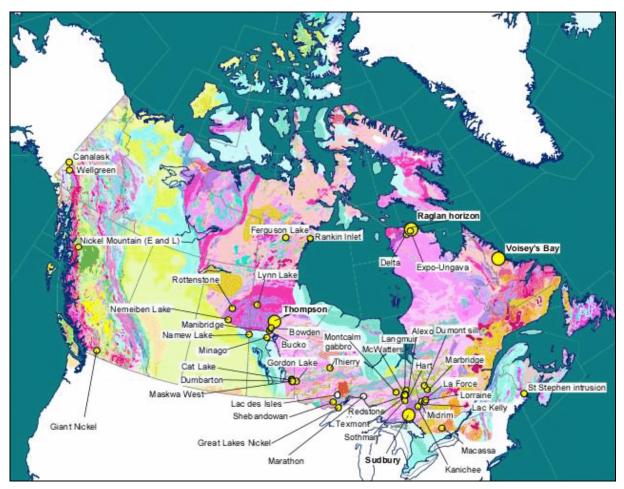


Figure 7: Map showing the distribution of magmatic Ni-Cu-PGE sulphide deposits in Canada, with resources greater than 100,000 tonnes (after Wheeler et al, 1996).

Within the AGB four of the assemblages contain komatiites. Komatiiteassociated Ni-Cu-(PGE) deposits have only been identified within the Kidd-Munro and Tisdale (including Langmuir W4 and the other Shaw Dome deposits) assemblages. This is consistent with the interpretation that komatiite associated Ni-Cu-(PGE) deposits form within lava channels of channelized sheet flows, but not within sheet flows or lava lobes.

Tisdale assemblage ultramafic volcanic rocks with high MgO content (up to 32 percent) are defined as aluminum undepleted komatiite ("AUK"). Individual flows are usually less than 100 metres thick and typically occur at or near the base of ultramafic sequences. The flow units can be recognized by the presence of chilled contacts, the distribution of spinifex textures, marked compositional or mineralogical changes at unit boundaries and the presence of ultramafic breccia or sulphidic sediments at contacts. Intrusive counterparts have also been recognized in the Tisdale assemblage.

Komatiite-associated nickel sulphide deposits are part of a continuum of lithotectonic associations in the family of magmatic Ni-Cu-PGE deposits, which contains a variety of mineralization types (Table 1: from Lesher & Keays, 2002).

Most of the deposits in the Shaw Dome, including the Langmuir W4 deposit are **Type I** (stratiform basal). **Type Ib** (magmatic footwall vein) mineralization is a minor mineralization type associated with Type I deposits. This type is found at Langmuir W4 and is an important ore type in other associations (e.g., Cu-PGE-rich footwall veins at Sudbury). **Types IIa** (blebby disseminated) and **IIc** (cloudy disseminated) are common minor mineralization types associated with Types I and IIb. **Type III** (stratiform "reef") mineralization is a more recently-recognized primary mineralization type in this associations (e.g., Bushveld, Stillwater). **Type IVa** (Ni-enriched metasediment) mineralization occurs in many deposits where Type I ores are intimately associated with sulphidic metasedimentary rocks, **Type IVb** (hydrothermal vein) mineralization is a relatively minor, but genetically important secondary ore type. **Type V** (offset) mineralization is associated with almost all Type I deposits (reported at both at the nearby Redstone and Hart deposits).

Origin			Mag	matic			Hydrothermal	-Metamorphic	Tectonic
Туре		l		II		III	ľ	/	V
	basal/	footwall		strata-bound interna	al	reef			
Subtype	I	۱b	ll a	ll b	ll c		IV a	IV b	
	stratiform	footwall vein	blebby	interstitial	cloudy	stratiform	meta-sediment	vein	offset
Sulphide distribution	at or near the bases of komatiitic peridotite or komatiitic dunite units	veins or stringers in host or wall rocks associated with Type I a mineralization	coarse disseminations within komatiitic peridotite or dunite units	fine disseminations within komatiitic peridotite or dunite units	very fine disseminations within komatiitic peridotite or dunite units	at or near contact between lower cumulate zones and upper gabbro zones within strongly differentiated units	layers in sulphidic metasediments associated with Type I mineralization	veins in wall rocks associated with Type I mineralization	faults and shear zones within host or wall rocks associated with Type I mineralization
Sulphide textures	massive, net- textured, disseminated; sometimes xenolith- or xenomelt-bearing	massive	blebby	intercumulus, interstitial or lobate	intercumulus, interstitial	disseminated, rarely net-textured	layered, banded, laminated	massive to disseminated, typically associated with quartz and/or carbonate	brecciated, typically heterolithic; durchbewe-gung
Tenor	typically moderate- low, slightly fractionated	variable, commonly enriched in Cu- PGE relative to associated contact ores	moderately high, relatively unfractionated	typically high, relatively unfractionated	variable (high to low)	typically high, relatively fractionated	variable, commonly depleted in Cr and Ir relative to associated magmatic ores	variable, commonly depleted in Cr and Ir relative to associated magmatic ores	variable, commonly depleted in Cr, Pt, and Au relative to associated magmatic ores
Timing and paragenesis	early magmatic, segregated prior to or during emplacement	early or late magmatic, injected during initial emplacement or formed via fractional crystallization of MSS	intermediate magmatic, segregated during crystallization of cumulate host rock	intermediate magmatic, segregated during crystallization of cumulate host rock	late magmatic but metamorphically modified, segregated during crystallization of cumulate host rock	late magmatic, segregated during final stages of crystallization of host rock	late magmatic or syn-metamorpic	syn-metamorphic, mobilized in hydrothermal fluids	syn-tectonic, mobilized from massive or net- textured sulphides
Examples	Alexo, Kambalda, Langmuir W4, Windarra, Hart	Kambalda, Alexo, Langmuir W4	Damba-Silwane, Otter shoot (Kambalda)	Mt. Keith, Dumont, Perseverence Main	Katinniq, Perseverence Main	Delta, Romeo II, Fred's Flow, Boston Creek Unit	Jan shoot (Kambalda), Langmuir, Thompson, Hart	Kambalda, Langmuir, Donaldson West	Thompson, Nepean, Perseverence 1A, Redross, Redstone, Trojan, Windarra

#### Table 1: Classification of Mineralization Types in Komatiite-Associated Magmatic Ni-Cu-PGE Deposits (modified from Lesher and Keays, 2002).

The genesis of the Shaw Dome and the Australian deposits is attributed to the combined effect of lava channels (or channelized sheet flows) and intrusions, that provide the heat and metal sources and sulphide bearing iron formation in the footwall that, provide an external sulphur source. Thermal erosion of the underlying rocks by the komatiite flows is considered to be the dominant mechanism for adding sulphur to the magma and to the creating a depositional 'trough' for sulphide minerals.

Characteristics of this deposit type which should be used in exploration methodologies include:

- Geological mapping of komatiite flow units;
- Presence of sulphidic footwall rocks; and
- Lithogeochemical surveys can detect AUK komatiite.

Airborne and ground electromagnetic surveys will detect the location of massive sulphide mineralization, whereas magnetic surveys should detect pyrrhotite rich sulphide mineralization.

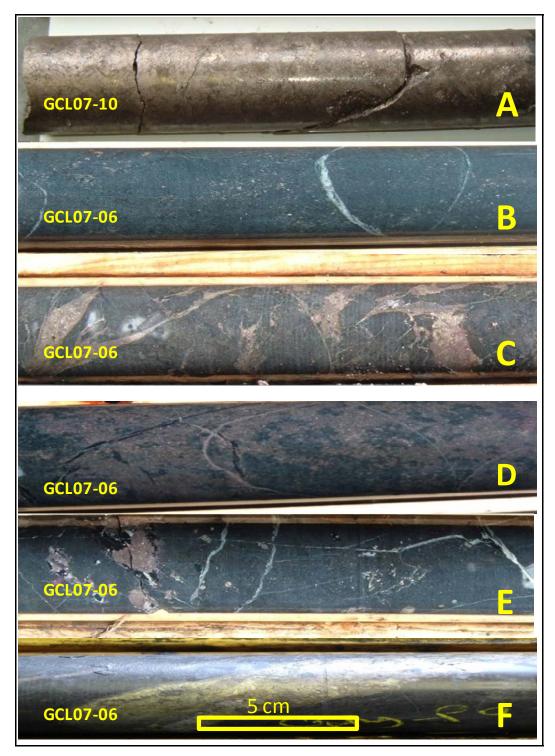
## 8 Mineralization

Mineralization within the Langmuir W4 deposit represents komatiite-hosted nickel-copper-platinum group metals sulphide mineralization, similar to other nickel deposits within the Shaw Dome. The Langmuir W4 mineralization can be classified as Type I (stratiform basal) in the classification of komatiite-associated magmatic nickel-copper-platinum group metals sulphide deposits devised by Lesher and Keays (2002).

The Langmuir W4 deposit has been interpreted by Golden Chalice geologists to consists of three sub-parallel nickel zones (termed A to C) hosted by komatilitic peridotite flows. The A to C zones occur within specific komatilitic peridotite flow units. The sulphide assemblage within the nickel enriched zones consists primarily of pyrrhotite, pentlandite, and minor pyrite and chalcopyrite. Pentlandite occurs as coarse grained irregular intergrowths with pyrrhotite. Langmuir W4 nickel zones usually comprise of a lower horizon of stringer/fracture-filling sulphides to semi-massive-massive sulphides which are stratigraphically overlain by disseminated to blebby sulphide zones (Figure 8: A to E). Locally massive sulphide veinlets occur mainly in the basal lower horizon (Figure 8: F).

Sulphide modal abundance within the lower horizon is usually over 15 percent, whereas within the upper horizon the sulphide modal abundance varies from three to 15 percent. Higher nickel values of up to five to seven percent occur where sulphide concentrations increase to 30 or 35 percent (semi-massive). Locally massive sulphides within the lower horizon can grade up to 17.9 percent nickel. Nickel grades are typically a half to three percent within the upper disseminated sulphide horizon.

A cross section showing downhole nickel grade histograms within steeply dipping modeled nickel domains at Langmuir W4 is provided in Figure 9.



# Figure 8: Typical Langmuir W4 Deposit nickel mineralization styles

- A: Massive sulphides
- D: Semi-massive sulphides
- B: Disseminated sulphides E: Blebby sulphide texture
- C: Fracture-filling sulphides F: Local Massive sulphide veinlet

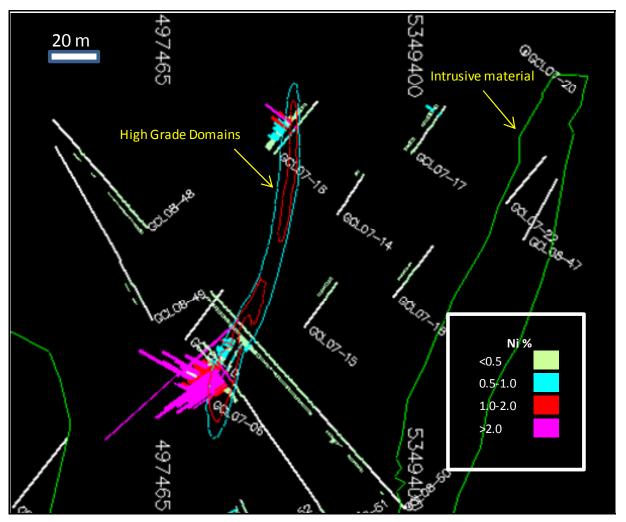


Figure 9: Cross section of across Langmuir W4 showing downhole nickel histograms within modelled sulphide mineralization domains. Looking east

## 9 Exploration

#### 9.1 Golden Chalice Exploration Work (2005 to 2010)

Golden Chalice commenced exploration on the Langmuir Property in 2005. A ground magnetometer and horizontal loop electromagnetic ("HLEM") survey was conducted on the property by Exploration Services Reg. during March 2005, which outlined a series of prominent HLEM conductors trending eastwest in the central portion of the property (Chatre, 2005). An initial short drilling program of four holes totalling 528 metres was completed to test the HLEM conductors on claim 3017518 (Caldbick, 2007). Drilling intersected ultramafic flows and sills with sulphidic interflow sediments that were anomalous in nickel. The anomalous nickel in the sediments was interpreted as a possible sulphur source for Kambalda style nickel mineralization in the ultramafic flow stratigraphy on the property. This was followed by a more detailed (75 metre flight line spacing) VTEM airborne survey flown by Geotech Limited over the eastern part of the Langmuir Property (Orta, 2005). Processing of the EM data in early 2006 identified 18 separate airborne EM anomaly clusters which were interpreted as potential sulphide targets. These clusters consisting of two or more flight line EM anomalies are largely covered by overburden or swamp. Ground magnetic surveys were conducted over five airborne magnetic targets as well as VLF-EM surveys over two of the five targets (Ploeger, 2006). A plan showing all the VTEM clusters defined drilling areas on the Langmuir Property is shown in Appendix B and Figure 10.

In 2007, a first phase of diamond drilling designed to test the VTEM clusters was conducted. This first phase diamond drilling program consisted of eight holes totalling 2,374 metres completed from March 10 to May 28, 2007. The drilling program tested eight of the 18 outlined airborne VTEM anomaly clusters. Four of the VTEM conductors were the result of graphitic sediments and the fifth was likely due to a fault zone containing conductive fault gouge. The geological cause of the other three VTEM conductors could not be adequately resolved by the diamond drilling (Montgomery, 2008).

On May 6, 2007 Golden Chalice reported a significant nickel intersection on the Langmuir Property. This nickel intersection was the first significant nickel discovery in the Timmins mining camp in over 30 years. Drill hole GCL07-06 returned core length intervals grading 1.14 percent nickel over 72.50 metres, including two separate heavily mineralized intervals of 2.23 percent nickel, 0.22 percent copper, 0.20 grams per tonne platinum, and 0.50 grams per tonne palladium over 17.50 metres and 1.74 percent nickel, 0.12 percent copper, 0.20 grams per tonne platinum, and 0.47 grams per tonne palladium over 13.10 metres. This discovery resulted in an aggressive diamond drilling program of 37 drill holes totalling 16,262 metres on claim 4203498 of the Langmuir Property between 2007 and January 2008 (Montgomery, 2008c). This was followed by a further 32 diamond drill holes totalling 5,890 metres drilled later in 2008 to further delineate the main nickel zone of the area referred to as Langmuir W4 (Figure 10). A summary of all the exploration work on the Langmuir W4 area between 1964 and 2008 is presented in Table 2. The plan location of the Langmuir W4 project area on a total magnetic intensity image is shown in Appendix B.

A winter diamond drilling program, consisting of 20 holes for 6,938 metres, was completed on the eastern part of the Langmuir Property from January 10 to April 15, 2008. The purpose of this drilling program was to test ten airborne VTEM clusters on the eastern portion of the Langmuir Property (Montgomery, 2009).

The geological cause of two of the 10 selected VTEM conductors could not be adequately explained by the diamond drilling. The other eight VTEM conductors were the result of graphitic argillite units within peridotite flows and a semi-massive pyrite zone in andesite volcanic rock. Analytical results from drill core sampling were disappointing.

During the spring and summer of 2008, the VTEM targets immediately west of the W4 nickel deposit and to the south on claim 3017518, were tested by 13 diamond drill holes totalling 6,120 metres. The diamond drilling, west of the W4 nickel deposit, intersected favourable peridotite flows similar to the W4 deposit flows but assays returned no significant metal values. In the southern area referred as Langmuir W6, favourable peridotite flows for hosting nickel mineralization were intersected by the drilling and an anomalous nickel section of 0.2 percent nickel over 6.3 metres was reported.

Table 2: Summary of Exploration on Langmuir W4 During 1964 to2008

Year	Company	Exploration Activity
1964	Min-Ore Mines Limited	Ground magnetic & electromagnetic survey
1965	Min-Ore Mines Limited	Diamond drilling 1 hole 153 m
1970	Yellowknife Base Metals Limited	Diamond drilling 3 holes totalling 803 m
1981	Utah Mines Ltd.	Ground magnetic survey, Geological survey and
		Diamond drilling 2 holes totalling 147 m
1987	Canadian Nickel Company	Airborne electromagnetic survey
2005	Golden Chalice Resources	Airborne VTEM survey
2007	Golden Chalice Resources	Diamond drilling 37 holes totalling 16,262 m and
		an orientation soil mobile metal ion (MMI) survey
2008	Golden Chalice Resources	Diamond drilling 32 holes totalling 5,890 m

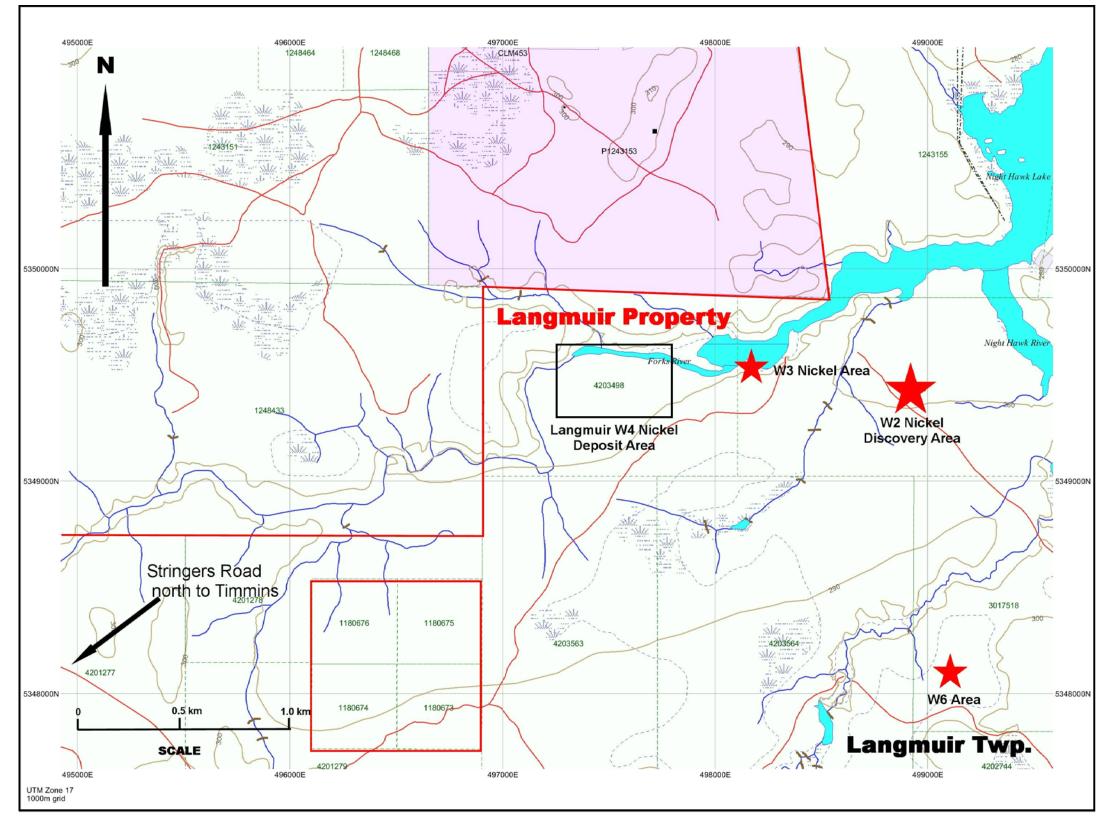


Figure 10: Location Map of the Langmuir Property Drilling Areas

In the fall of 2008, a mobile metal ion ("MMI") soil survey was conducted from the eastern side of the Langmuir W4 deposit area to the Nighthawk River (Figure 10). This was completed after a 2007 MMI soil orientation survey over the A zone of the Langmuir W4 nickel deposit indicated a strong nickel MMI anomaly immediately south of the zone. The 2008 survey outlined a strong MMI nickel anomaly adjacent to the Langmuir W2 VTEM conductor cluster.

In 2009, Golden Chalice drilled a further 11 diamond drill holes (3,939 metres) focusing on the eastern side of the W4 nickel deposit to test a few VTEM conductors and a strong MMI nickel anomaly. The first hole of the 2009 drilling program testing the Langmuir W2 conductor intersected a core length interval grading 3.34 percent nickel over 0.9 metre. This intersection included a 20 centimetre massive sulphide section grading 11.35 percent nickel, 0.6 percent copper and 1.46 grams per tonne combined platinum and palladium, about 1.5 kilometres east of Langmuir W4 (Figure 10). A down hole time domain electromagnetic survey identified a significant nearby off-hole electromagnetic (EM) response. A step out hole later in the program targeted the borehole EM anomaly and returned 1.72 percent nickel over 3.0 metres within a broader mineralized channel flow grading 0.55 percent nickel over 20.10 metres. The nickel mineralization was located approximately 25 metres east and up-dip of the first intersection at a vertical depth of approximately 300 metres and is interpreted to be open in all directions. The nickel mineralization occurs within a peridotite channel flow horizon and consists of blebby, patchy and fracture-filled pyrrhotite and pentlandite.

The 2009 drilling also delineated elevated nickel mineralization in a drill intersection grading up to 0.34 percent nickel over 2.4 metres in a third area termed Langmuir W3 sited approximately 500 metres east of the Langmuir W4 (Figure 10). The 2009 diamond drilling program results further supported the theory of a Kambalda-type district with potential for multiple nickel deposits over a relatively small area within the Langmuir Property on the Shaw Dome.

From February 23 to April 17 2010, Golden Chalice completed a five drill hole program totalling 1,645 metres, Langmuir W2 area. This program was designed to test for an extension of the nickel mineralization discovered in the 2009 drilling program. Assay results from the 2010 drilling program are currently being compiled.

#### 9.2 Future Exploration Work

The komatiitic flows that host the Langmuir W4 nickel mineralization continue at depth below 375 metres vertical and to the east. Future exploration in the immediate area of the W4 nickel deposit will focus on drill testing the depth and eastern extension from surface.

The overall strike length of the ultramafic flow package on the Langmuir Property is over 20 kilometres long and up to four kilometres wide. Golden Chalice plans to drill test further EM anomaly clusters on the property that occur within similar types of ultramafic flows as at Langmuir W4 in the future.

## 10 Drilling

Information regarding the minor drilling conducted on Langmuir W4 prior to 2005 (Section 5.1 is not available to SRK. This historical data was not considered reliable for the resource estimation. Golden Chalice has drilled a total of 130 holes on the Langmuir Property between May 2005 and April 2010 (Table 3). All holes were drilled from the surface and were land based and all employed NQ-size core tools. The following three diamond drilling contractors were used by Golden Chalice for the diamond drilling programs on the Langmuir Property: Norex Drilling of Timmins, Ontario, Orbit-Garant Drilling of Val-d'Or, Quebec and Major Drilling of Val-d'Or, Quebec.

The mineral resource evaluation described herein is based on 69 holes (22,152 metres) drilled to test the sulphide mineralization in the Langmuir W4 area. This drilling was conducted in two programs one in 2007 consisting of 37 drill holes totalling 16,262 metres and the second in 2008 consisting of 32 drill holes totalling 5,890 metres. All the holes drilled to outline the Langmuir W4 nickel deposit were drilled by Norex Drilling of Timmins, Ontario. A plan showing the collar positions of the Golden Chalice diamond drilling conducted within the Langmuir W4 area is provided in Figure 11.

Year	Area of Drilling	No. of Drill Holes	Total (metre)
2005	W6 South Central	4	528
2007	W2, W3 Central	8	2,374
2007-2008	W4 Nickel Deposit	69	22,152
2008	East	20	6,938
2008	W6 South Central & Central West of W4	13	6,120
2009	W6 South Central & W2, W3 Central	11	3,939
2010	W2 Central	5	1,645
	TOTAL	130	43,696

Table 3: Golden Chalice Drilling on the Langmuir Property

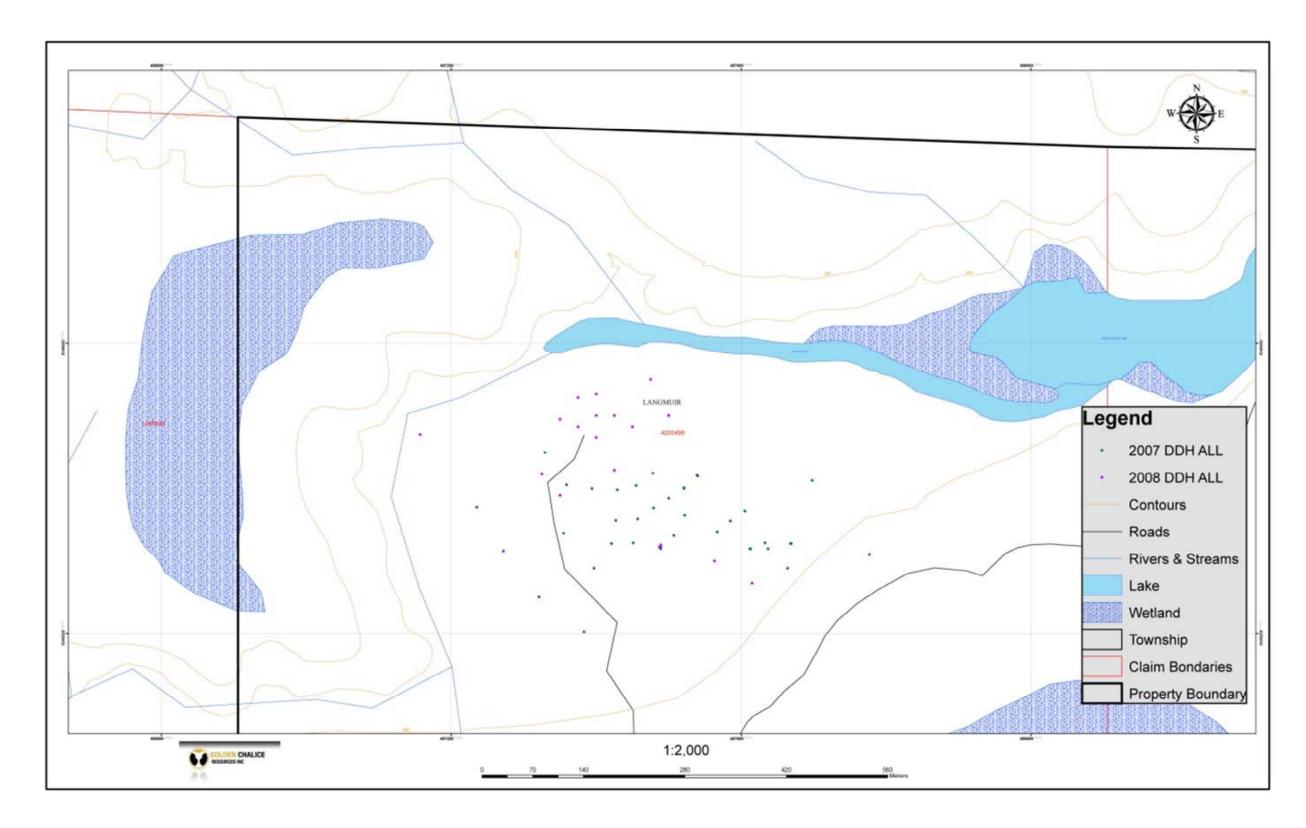


Figure 11: Collar Location of Resource Drilling within the Langmuir W4 Project Area

#### 10.1 Surveying

All drill holes outside of the Langmuir W4 area were spotted in the field using a WAAS-enabled, hand-held Garmin GPS unit. After the Langmuir W4 discovery hole GCL07-06, a small field grid was cut about the collar of the discovery hole for better control on the location of future holes. The field grid consisted of a 1.2 kilometre base line and twelve 450 metre long cross lines spaced 50 metres apart (6.6 line kilometres). The drilling grid base line is oriented at 055 degrees.

Subsequently, every 2007 drill hole in the Langmuir W4 area was spotted using a field measuring tape and a compass. After the 2007 drill holes were completed, the top of the collar casing location ((NAD83 datum, Zone 17N), was surveyed by Talbot Surveys Ltd. of Timmins Ontario, using a Differential GPS ("DGPS") unit to sub-centimetre accuracy. The elevation, azimuth, and dip of all the drill collar casings were also surveyed. All 2008 drill holes were spotted with the DGPS. After drill hole GCL08-47, the holes were not resurveyed as the casings were pulled after the top 15 metres of bedrock penetration were cemented.

During drilling operations, the down hole orientations of all drill holes were surveyed using a Reflex EZ-Shot instrument which is an electronic, solid-state, single-shot drill hole orientation tool. Readings were taken 15 metres below the casing, then nominal 50 metre intervals for the remaining length of the hole and finally at the end of the hole. As verification of the Reflex EZ-Shot instrument readings, two drill holes (GCL07-14 and GCL08-46) were surveyed by a Reflex Maxibor II instrument, which is a non-magnetic multishot tool designed to be used in areas of magnetic rock. A comparison of the down-hole Reflex EZ-Shot instrument readings to the Reflex Maxibor II instrument readings in both holes showed very little variation indicating that any magnetism of the rocks was not affecting the Reflex EZ-Shot instrument readings.

#### 10.2 Drilling Pattern and Density

The drill holes outside of the Langmuir W4 area were not systematic designed and were directly targeting specific airborne VTEM conductors. After the discovery hole GCL07-06, step out drill holes were drilled in the W4 area to ascertain the strike and continuity of the nickel mineralization. Drilling was conducted on a tight pattern of approximately 25 metres spacing with one, two, or three drill holes per setup. The 2007 drill program holes were all drilled at an azimuth of 320 to 325 degrees and with dip angles of 45 to 60 degrees. Their orientation was based on targeting the Langmuir W4 VTEM conductor cluster which was then interpreted to be trending 055 degrees. After hole GCL08-47, it was established that the nickel zones were trending approximately east-west and dipping steeply north. So in order to cut the nickel zones closer to their true thickness width, the subsequent 2008 drill holes were drilled southward at azimuths varying from 195 to 176 or northward (dependent on topography) and with dip angles of 45 to 70 degrees. Drilling thus achieved a drill spacing of approximately 25 metres for the upper part of the Langmuir W4 deposit (above 200 metres below surface), and 50 or more metres below 200 metres.

It is the opinion of SRK, that the drilling strategy and pattern have produced an adequate drill density to support resource estimation.

#### **10.3 Field Procedures**

At all surface drill locations in the Langmuir W4 deposit area, collar pickets were installed. Each collar picket was planted at each drill hole casing and marked with a clear aluminum tag that was inscribed with the borehole name, azimuth, dip and length of the hole.

All the Golden Chalice Langmuir Property drill holes were routinely logged by geologists directly onto laptop computers using a standardized Microsoft Excel template. This template recorded the collection of lithological, structural, sulphide mineralization, alteration, core recovery, and Rock Quality Determination ("RQD") data observed by the geologist. The template "diamond drill log record" also included drill hole location details, the downhole Reflex EZ-Shot instrument readings and core sampling details (see Section 11). The Excel-based drill logs were imported into a geological software computer program LOG II and paper drill logs; collar location and elevation, down-hole azimuth and dips, geology, sampled intervals and assays were merged into an Excel database. This Excel database which forms the basis of the Langmuir W4 deposit resource estimation was imported into Oasis Montaj Geosoft to produce sections and plan maps during the drilling programs.

Overall the RQD was good for all holes with some local blocky ground particularly in the graphitic argillite units. Core recovery was excellent with rare core loss recorded.

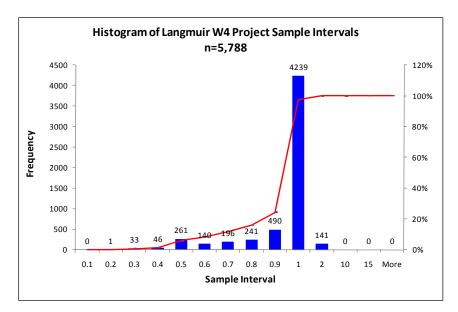
Drill core is securely stored at the Hastings Management office/core facility in Timmins, Ontario or at the Hastings Management outside core storage facility on the Airport Road, Timmins.

### 11 Sampling Approach and Methodology

Industry standard core sampling protocols are used by Golden Chalice on all drill holes. These protocols are documented in hard copy Golden Chalice sampling procedures, which are described in this section.

At the drill site, the drilling contractor places drill core into wooden tray boxes along with 'marker blocks" to indicate measured distances down the drill hole from the collar. During drilling programs, drill core is collected by exploration technicians at the drill sites or the drill access trail every drilling day and moved to a secure logging facility. Initially, the secure logging facility was Moneta Porcupine Mine's logging facility on Highway 655 in Timmins, whereas after August 2007 it was moved to the Hastings Management office/core facility in Timmins, Ontario.

At the logging facility, the length of drill core recovered was compared to the position of depth markers in the core boxes by a senior technician in order to check for misplaced markers and to calculate the amount of core loss, if any. The core was logged and sampled by qualified geologists. Geological descriptions of the core and sampling intervals with corresponding identifier numbers were entered onto a "diamond drill log record" captured on a laptop computer. Sampling of the core was based on visual observations of sulphide mineralization and samples were collected within lithologically homogeneous intervals with due regard for varying mineralogy and textures. Sample intervals did not cross geological boundaries. Generally, the sample length within mineralized zones was on the order of 0.5 to 1.0 metre or less (Figure 12).



# Figure 12: Histogram of sampled lengths for Langmuir W4 Project core samples

The NQ core selected for sampling was sawn in half and a half bagged with the first part of a three-part assay tag bearing a unique identifier number. The other half of the core was stored at the logging facility with the second part of the three part assay tag bearing an identical unique identifier number placed in the core box at the beginning of the sample interval. Records of the sampled intervals and sample numbers are recorded in the computerized drill logs, and the third part of the assay tag is filed.

The drill core is securely stored at the Hastings Management office/core facility in Timmins or at the Hastings Management outside core storage facility on the Airport Road, Timmins.

#### 11.1 SRK Comment

In the opinion of SRK, Golden Chalice personnel used industry best practices in the collection, handling and management of drill core assay samples. A continuously improving quality management system is being developed by exploration management. There is no evidence that the sampling approach and methodology used by Golden Chalice introduces any sampling bias or contamination.

# 12 Sample Preparation, Analyses and Security

Golden Chalice has collected 5,788 core samples from 69 holes since the inception of Langmuir W4 in 2007.

During 2007 and 2008 all Langmuir W4 samples were sent to the Laboratoire Expert Inc. of Rouyn-Noranda, Quebec. This laboratory is not accredited according to ISO/IEC Guideline 17025 by the Standards Council of Canada ("SCC"). SRK is uncertain if Laboratoire Experts Inc. participates in round robin proficiency tests. Golden Chalice used an umpire laboratory to verify the analytical results delivered by Laboratoire Expert Inc.

Hardcopies of all Sample Dispatch sheets and laboratory Certificates of Analysis are kept on file by drill hole number and drill phase at Golden Chalice's Timmins exploration office. Digital copies of all Certificates of Analysis (pdf and xls formats) are also kept on file within the Timmins office.

#### 12.1 Sample Security

Drill core is logged at Golden Chalice's secure core logging and sampling facility in Timmins by Golden Chalice geologists. Core is transported to the Timmins core logging and sampling facility by Golden Chalice personnel using a company vehicle. Security of samples prior to dispatch to the analytical laboratory was maintained by limiting access of un-authorized persons to the secure core handling facility. Detailed records of sample numbers and sample descriptions provide integrity to the sampling process. Labelled samples are packed in sealed bags robust enough to survive transport to the assay laboratory and also to provide sample integrity. All drilling assay samples are collected by Manitoulin Transport at the company's secure Timmins core sampling facility and transported securely to Laboratoire Expert Inc. in Rouyn-Noranda, Quebec. Laboratoire Expert Inc. has returned the majority of the drill core sample pulps and rejects to Golden Chalice. The returned pulps and rejects are currently securely stored at the Hastings Management core storage facility in Timmins.

#### 12.2 Sample Preparation and Analyses

Upon receipt of samples at the Laboratoire Expert Inc., a bar code label is attached to the original sample bag. This label is then scanned into the laboratory database and the weight of the sample recorded together with information such as date, time, equipment used, and operator name. The scanning process is repeated for each subsequent activity performed on the sample from sample preparation to analysis through to the storage or disposal of the pulp and reject material. This system provides a complete chain of custody records for every stage in the sample preparation and analytical process from the moment that a sample arrives at the laboratory. Sample preparation involves drying, crushing, splitting, and pulverizing. Samples were dried prior to crushing the entire sample to 90 percent passing a -10 mesh screen. From the crushed coarse fraction, a sub-sample of approximately 300 grams was collected using a Jones riffle splitter. This 300 gram portion was completely pulverized to 90 percent passing a -200 mesh screen in a ring and puck pulverizer. A 0.5 gram aliquot was collected, from each pulp.

All drill core samples from Langmuir W4 were analyzed for nickel, copper, cobalt, lead, and zinc by aqua regia digestion followed by atomic absorption analyses. The detection limit was two parts per million ("ppm") for each element. If the nickel, copper or cobalt result exceeded 5,000 ppm then the pulp was re-analyzed by total digestion followed by atomic absorption analyses. The concentrations are reported as a percent and the detection limit is 0.01 percent for nickel and copper with the total digestion method. All the drill core samples were also analyzed for gold, platinum and palladium by lead fire assay with an atomic absorption finish on a 30 gram sample pulp. The detection limit for the lead fire assay atomic absorption method is two parts per billion ("ppb") for gold, five ppb for platinum and four ppb for palladium. If the sample result exceeded 1,000 ppb for any precious metal, then the sample pulp was re-analyzed by using a lead fire assay collector and a gravimetric finish. The precious metal concentrations were reported as grams per tonne.

#### 12.3 Quality Assurance and Quality Control Programs

Quality control measures are typically set in place to ensure the reliability and trustworthiness of exploration data. This includes written field procedures and independent verifications of aspects such as drilling, surveying, sampling and assaying, data management and database integrity. Appropriate documentation of quality control measures and regular analysis of quality control data are important as a safeguard for project data and form the basis for the quality assurance program implemented during exploration.

Golden Chalice have implemented formal analytical quality control measures since the inception of Langmuir W4, by inserting a single Matachewan diabase drill core sample blank or a single standard reference sample into the sample stream for every 25 samples. A standard pulp was inserted for every drill core sample ending in "-25 and -75" sent to the laboratory, whereas a blank sample was inserted drill core sample ending in "-00 and -50". During mid 2008 the blank was changed to crushed marble, when the supply of Matachewan diabase drill core was exhausted.

Five nickel standards ranging from a high nickel standard of 1.900 percent nickel to a low nickel standard of 0.265 percent nickel obtained from WCM Minerals of Vancouver have been inserted into the sample stream (Table 4). These standards adequately represent the range of nickel grades found at the Langmuir W4 deposit.

		Nickel Assays			Copper Assays				
Standard	Source	Mean	Stdv	+2 Stdv	-2 Stdv	Mean	Stdv	+2 Stdv	-2 Stdv
Ni111	WCM Minerals	0.420	0.013	0.446	0.394	0.240	0.009	0.258	0.222
Ni112	WCM Minerals	0.610	0.026	0.661	0.559	0.300	0.014	0.329	0.271
Ni113	WCM Minerals	1.240	0.038	1.315	1.165	0.250	0.120	0.274	0.226
Ni115	WCM Minerals	1.900	0.062	2.025	1.775	0.170	0.008	0.186	0.154
Ni117	WCM Minerals	0.265	0.011	0.287	0.243	0.345	0.009	0.364	0.326

Table 4: As	ssaving Spec	cifications* for	<sup>r</sup> Control S	Samples
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\* Expected values and standard deviation values for nickel and copper can be found in Appendix C alongside the analytical quality control assay results.

Laboratoire Expert Inc. implements a stringent internal check assay analysis procedure, which includes a repeat pulp analysis every 12th sample for every element analyzed. Each sample shipment batch (certificate of analysis) includes a standard for the nickel, copper, and cobalt analysis. Each furnace batch of 28 samples analyzed for gold, platinum and palladium includes a reagent blank and a standard sample.

#### 12.4 Specific Gravity Database

The Langmuir W4 specific gravity database includes 75 measurements conducted by SGS Laboratory by pycnometry in 2010 on pulverized core samples selected as representative of each grade domain. This database also includes 15 measurements on split core acquired by JVX Consultants using a water immersion technique. Based on this database of 90 records, SRK assigned an average specific gravity value of 2.82 to all resource domains, as illustrated in Figure 13.

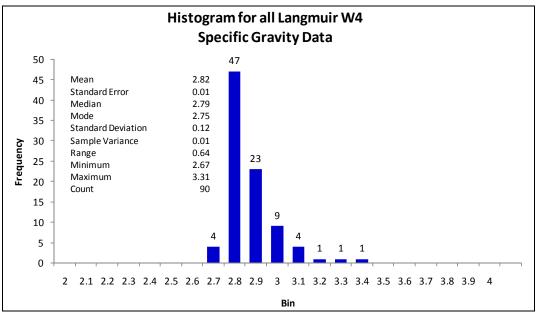


Figure 13: Histogram and Basic Statistics of the Combined Specific Gravity Dataset for Langmuir W4.

## **13 Data Verification**

#### 13.1 Verification by Golden Chalice

Golden Chalice implements a series of industry standard routine verifications to ensure the collection of reliable exploration data. Documented exploration procedures exist to guide most exploration tasks to ensure the consistency and reliability of exploration data. All work is conducted by appropriately qualified personnel under the supervision of qualified geologists.

#### 13.2 Verification by SRK

#### 13.2.1 Site Visit

In accordance with National Instrument 43-101 guidelines, SRK visited Langmuir W4 during 18 to 19 March 2010. The site visit was conducted to ascertain the geological setting of the Langmuir W4 nickel mineralization and to witness the extent of exploration work carried out on the property. During the site visit, SRK was given full access to all project data.

SRK interviewed project personnel on all aspects of the field program. During the site visit, SRK was able to and review most of the exploration protocols and procedures used by Golden Chalice exploration staff. SRK found that these protocols and procedures generally meet industry 'best practices'. SRK reviewed drill core from several boreholes intersecting nickel sulphide mineralization in selected areas of Langmuir W4. To witness the location and extent of exploration, SRK visited the project area to verify selected surface drill collar positions and to investigate various outcrop exposures to ascertain the geological setting of the project area.

SRK inspected the data entry procedures used to create, maintain and update the exploration database. All project data are stored and maintained in an inhouse database. The project database is created under the supervision of an exploration manager who has the knowledge and authority to ensure database integrity. The data entry process follows a well defined procedure. All data are visually inspected and validated prior to integration into the project exploration database.

During the site visit SRK examined core from selected holes drilled during 2007 and 2008 and found the logging information to accurately reflect actual drill core. The lithology and sulphide mineralization contacts checked by SRK match the information reported in the drill logs. Generally, the boundaries of the sulphide mineralization zones examined in core match the boundaries determined from assay results.

Golden Chalice made available to SRK the complete electronic database accumulated on Langmuir W4 which includes spreadsheets and scanned crosssections depicting the interpreted geology. This database contains a complete record of the electronic data produced for Langmuir W4. SRK conducted a series of routine verifications to ensure the reliability of the electronic data provided by Golden Chalice. These verifications include auditing the selected electronic data against original paper assay certificate records. No significant data entry errors were noted. In the opinion of SRK, the electronic data are reliable, appropriately documented and exhaustive.

SRK also collected 10 core samples for independent verification analyses. Care was taken to replicate sampled intervals for various types of sulphide mineralization (low and high grade nickel mineralization). The verification samples were specifically collected to attest to the existence of nickel and copper mineralization on Langmuir W4.

The SRK samples were submitted to SGS Minerals Services in Toronto for independent analyses using a 'near total' sodium peroxide fusion followed by an ICP-AES finish (analytical code ICP90A). The management system of the SGS Toronto laboratory is accredited ISO 9001 and that laboratory is also accredited ISO/IEC 17025 by the Standards Council of Canada for certain testing procedures including analytical code ICO90A. By comparison, Langmuir W4 assays were derived using an aqua regia digestion followed by atomic absorption finish. The comparative results are summarized in Table 5 and graphically in Figure 14. SRK regard the small variance in nickel and copper grades in Figure 14 to be acceptable and typical for deposits of this nature.

Sample	Lab Expert Ni%	SGS Minerals Ni%	Lab Expert Cu%	SGS Minerals Cu%
104365	3.44	2.96	0.25	0.23
104366	11.09	11.00	0.45	0.5
104364	1.15	1.34	0.09	0.03
104362	1.66	1.78	0.13	0.12
104363	0.14	0.22	0	0.02
104368	0.64	0.77	0.03	0.04
104307	0.89	0.97	0.14	0.07
104369	2.74	3.17	0.08	0.09
104370	5.85	5.00	0.81	0.73
104371	0.14	0.19	0.01	0.02
Average	2.77	2.74	0.20	0.19

Table 5: Comparative Analyses from the SRK Assay VerificationStudy

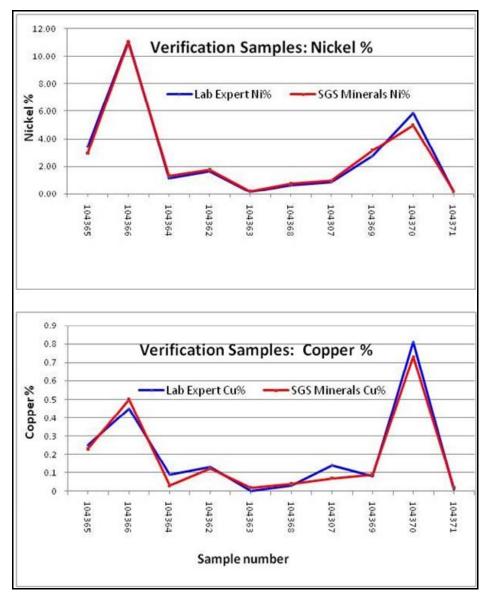


Figure 14: Graph showing comparative nickel and copper percent assays for Laboratoire Expert Inc. and SGS Minerals Laboratories

#### 13.2.2 Verification of Analytical Quality Control Data

Golden Chalice made available to SRK internal and external analytical quality control data in the form of MS Excel spreadsheets aggregating the assay results for the quality control samples.

SRK compiled the assay results for the internal and external quality control samples for further analysis. Sample blanks, certified field standards data were summarized on time series plots to highlight the performance of the control samples. Paired data (laboratory aware pulp duplicates and check assays) were analyzed using bias charts, quantile-quantile and relative precision plots.

The analytical quality control data produced by Golden Chalice for Langmuir W4 between 2007 and 2008 are summarized in Table 6. Analytical quality control data are summarized in table and graphical format in Appendix C.

Although, the overall performance of the control samples inserted into the sampling stream submitted for assaying is generally acceptable, a few comments regards the performance of the blanks and standards are warranted.

Blank grades are generally acceptably low, but occasional higher grades (up to 0.12 percent nickel) question the homogeneity of the Matachewan diabase and/or crushed marble used as blank material.

The performance of the certified WCM Minerals reference materials yield variable outcomes with no consistent trends emerging. The performance of control sample Ni 112 is good, with a single outlier suggesting a mislabelled standard. Laboratoire Experts, the primary laboratory, had difficulty assaying control samples Ni 111, Ni 113 and Ni 115 to within two standard deviations of the expected value (Appendix C). For low grade standard Ni 111, 67 percent of the assayed grades plotted outside of two standard deviations of the expected value, with the majority of these biased low. For the medium grade standard Ni 113, 76 percent of the assayed grades plotted outside of two standard deviations of two standard deviations of the expected value, with the majority of these biased low. For the medium grade standard deviations of the expected value, with the majority of these biased high. For high grade standard Ni 115, 73 percent of the assayed grades plotted outside of two standard deviations of the expected value, with the majority of these biased high. This limited dataset analyses suggests that higher grade standard assays tend to be biased high, whereas low grade standard assays tend to be biased low.

Laboratory pulp duplicate sample pairs show good reproducibility for 715 pairs. For laboratory pulp duplicate samples, rank half absolute difference ("HARD") plots suggest that more than 99 percent of samples have HARD below 10 percent for nickel and copper values (Appendix C).

On SRK's recommendation, total of 75 pulp reject samples from drill samples taken throughout the exploration program were selected by Golden Chalice for check assaying by SGS Mineral Laboratories in Toronto during March 2010.

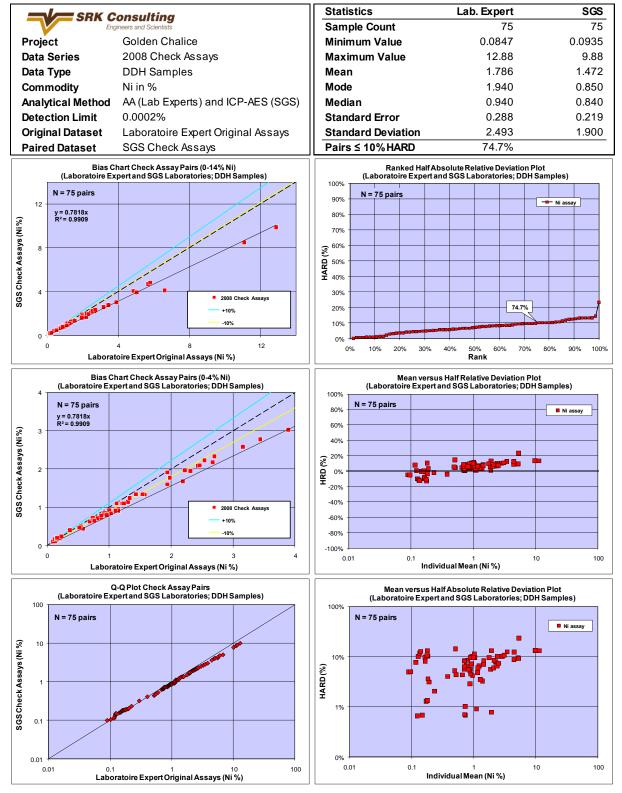
	Core Samples	Total (%)	Comment
Sample Count	5,788		
Blanks	107	1.85%	
Certified QC standards:	112	1.94%	
Ni 111	21		WCM Minerals (0.42% Ni; 0.24% Cu)
Ni 112	14		WCM Minerals (0.61% Ni; 0.30% Cu)
Ni 113	41		WCM Minerals (1.24% Ni; 0.25% Cu)
Ni 115	33		WCM Minerals (1.90% Ni; 0.17% Cu)
Ni 117	3		WCM Minerals (0.27% Ni; 0.35% Cu)
Check Assays	75	1.30%	Laboratoire Expert and SGS Labs
Total QC Samples	294	5.08%	
Lab Aware Pulp Samples	715		Laboratoire Expert internal duplicates

# Table 6: Summary of Analytical Quality Control Data Produced ByGolden Chalice on the Langmuir W4 Project

Check assay paired data suggests that the umpire laboratory (SGS) had some difficulty reproducing the assay results from the primary laboratory Laboratoire Experts (Figure 15). Most discrepancies appear at higher grades, with 74.7 percent of samples having HARD below 10 percent for nickel grades.

SRK note that comparative Laboratoire Experts assays for nickel are slightly higher than that of SGS Mineral Laboratories (1.78 vs. 1.47 percent nickel respectively). The specific reason for this discrepancy is unknown and may be partially attributed to the condition of the pulp reject samples retrieved for check assaying purposes. Evidence from the analyzed standard reference material and from the check assay exercise suggests that higher grade samples are slightly over-estimated by the primary laboratory. SRK propose that Golden Chalice further investigate these in future drilling programs by proactively forwarding pulps for check assaying during the exploration programs. SRK also recommend that Golden Chalice increase the proportion of quality control samples from the current five percent (Table 6) to 10 percent of total samples assayed. It is also recommended that field duplicate samples be taken during future drill programs.

In the opinion of SRK, the analytical results delivered by Laboratoire Experts are sufficiently reliable, however, for the purpose of resource estimation.



#### Figure 15: Bias Charts and Precision Plots for Pulp Duplicate Sample Pairs assayed by Laboratoire Expert and SGS Minerals

## **14 Adjacent Properties**

The Langmuir W4 deposit is located within the Golden Chalice Langmuir Property claims, which bears similarities to various past production and current production deposits within the Shaw Dome (Figure 6). Most of the Shaw Dome nickel deposits are hosted by ultramafic rocks, which have generally been interpreted as extrusive komatilitic flows.

Langmuir W4 is located just south of five known deposits in the Shaw Dome. Three of these deposits viz. McWatters, Redstone and Hart are owned by Liberty Mines Inc. with the former two being current production properties and the latter being a pre-production property. Langmuir No. 2 is owned by Liberty Mines Inc. and Inspiration Mining Corporation, with Langmuir No. 1 solely belonging to Inspiration Mining Corp.

The Redstone deposit contains a reported Measured and Indicated mineral resource of 599,000 tonnes at an average grade of 1.47 percent nickel and an Inferred Mineral Resource of 737,000 tonnes at 1.57 percent nickel (SRK, 2010a). The McWatters deposit is hosted by steeply dipping serpentinite. The sulphide mineralization is divided into an upper irregular disseminated zone and a lower massive sulphide zone. The McWatters mineral resources are estimated at 792,500 tonnes grading an average of 0.81 percent Ni in the Indicated category (SRK, 2009). The Hart deposit has a reported Indicated Mineral Resource of 1,546,000 tonnes at 1.40 percent nickel and an Inferred Mineral Resource of 322,000 tonnes at 1.27 percent nickel (SRK, 2010b).

Both Langmuir No. 1 and Langmuir No. 2 are past producing mines with total reported production of 111,502 tonnes with an average grade of 1.74 percent nickel, and 1,133,750 tonnes with an average grade of 1.50 percent nickel respectively (undated Ministry of Northern Development and Mines Resident Geologist Report ). The Langmuir No. 1 deposit is estimated to contain a NI 43-101 compliant Indicated Mineral Resource of 1,733,000 tonnes grading 0.51 percent nickel (Pressacco et al, 2010). The Indicated Mineral Resources for the Langmuir North deposit (Langmuir No. 2 North zone) are estimated at 8,324,000 tonnes grading 0.40 percent nickel (Pressacco et al, 2010).

Historical production from the above mentioned adjacent properties is provided in Table 7.

Table 7: Reported Nickel Production from Mines Adjacent to
Langmuir W4 Area to the End of 2009 (Atkinson, 2010)

Mine	Years of Production	Milled tonnes	Nickel Grade (%)
Langmuir No. 1	1990-1991	101,153	1.74
Langmuir No. 2	1972-1978	997,903	1.47
McWatters	2008	15,361	0.55
	2009	7,664	0.41
Redstone	1989-1992	267,524	2.40
	1995-1996	9,279	1.70
	2006-2008	133,295	1.92
	2009	36,668	1.16

### 15 Mineral Processing and Metallurgical Testing

To date no preliminary metallurgical test work has been completed on the Langmuir W4 nickel mineralization. Nickel recoveries depend on the head grade of the sulphide mineralization because nickel occurs as silicate (olivine and orthopyroxene) and sulphide (pentlandite) phases in magmatic nickel sulphide deposits. This is especially relevant for ultramafic deposits dominated by disseminated sulphide and olivine. Olivine can hold up to 4,000 ppm nickel in the crystal lattice depending on the forsterite content of the olivine.

The recovery of sulphide nickel varies widely and depends on the relationship between silicate and sulphide nickel and magnesium oxide. Nickel in silicates is practically unrecoverable.

Mineralization within the Langmuir W4 deposit represents komatiite-hosted nickel-copper-platinum group metals sulphide mineralization, similar to other nickel deposits within the Shaw Dome in the Timmins area. Nickel mineralization at Langmuir W4 is similar to that currently being mined and processed at the neighbouring Redstone and McWatters mines. In 2007, Liberty Mines Inc. commissioned the Redstone Nickel concentrator, located on the Redstone Mine site. The plant is designed to process up to 2,000 tonnes per day of high MgO nickel, copper platinum group metals sulphide mineralization. The plant has been processing mineralized material from the Redstone and McWatters Nickel Mines. Reported Redstone Plant metallurgical performance for Redstone and McWatters feed since 2007 is tabulated in Table 8. SRK anticipate that recoveries from Langmuir W4 material should be similar to that reported for Redstone and McWatters material.

As part of the ongoing studies and preliminary assessment, representative samples from Langmuir W4 will be selected for mineralogical and metallurgical testing with the objective being to potentially optimize the floatation process for the further treatment of the sulphide concentrate. Detailed testing of the nickel recoveries including sulphide/silicate assays will be used to produce recovery curves based on the respective head grades used in testing. Flowcharts for potential processing options will be established to determine possible treatment routes for the Langmuir W4 sulphide mineralization.

Plant Feed from	Year	Tonnes			Average Ni Recovery (%)
Redstone	2007	41,355	2.07	18.71	88.70
Redstone	2008	63,151	1.84	17.48	87.74
McWatters	2008	15,705	0.51	13.73	82.92
Redstone	2009	30,000	1.00	15.00	90.00

 Table 8: Redstone Plant Metallurgical Performance (SRK, 2009)

# 16 Mineral Resource and Mineral Reserve Estimates

#### **16.1 Introduction**

The mineral resource statement presented herein represents the first mineral resource evaluation for Langmuir W4 prepared in accordance with the Canadian Securities Administrators' National Instrument 43-101. Langmuir W4 contains magmatic polymetallic sulphide mineralization. Nickel, copper, platinum, palladium and cobalt have been estimated in this study with mineral resources tabulated on the basis of nickel content only, due to the generally low grades reported for the other metals.

Metal grades were estimated in a block model constrained by modelled nickel mineralization wireframe models, using a geostatistical approach. The mineral resources are reported at two cut-off grades to reflect the "reasonable prospects" for economic extraction. The effective date of this resource estimate is April 28, 2010.

The mineral resource estimation work was completed in Sudbury and Toronto by Sebastien Bernier, P.Geo (OGQ#1034) and Glen Cole, P.Geo (APGO #1416), both "independent qualified persons" as this term is defined in National Instrument 43-101. The resource estimation and accompanying technical report was reviewed by Dr Jean-Francois Couture, P.Geo of SRK.

This section describes the resource estimation data, methodology and parameters used by SRK and summarize the key assumptions used to prepare the initial mineral resource model for Langmuir W4.

In the opinion of SRK, the resource evaluation reported herein is a reasonable representation of the mineral resources found at Langmuir W4 at the current level of sampling. The mineral resources have been estimated in conformity with generally accepted CIM "Estimation of Mineral Resource and Mineral Reserves Best Practices" guidelines and are reported in accordance with the Canadian Securities Administrators' National Instrument 43-101. Mineral resources are not mineral reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the mineral resource will be converted into mineral reserve.

Leapfrog and Gemcom (version 6.2) software was used to construct the geological solids. Datamine Studio Version 3 was used to build composites, the block model, to run the grade interpolation and to estimate and tabulate mineral resources. Isatis (version 9.05) was used to undertake geostatistical analyses of the dataset and to generate variograms for nickel and copper. Conceptual pit optimization work to test the "reasonable prospects" for economic extraction was completed with Whittle software.

#### **16.2 Resource Estimation Procedures**

The evaluation of mineral resources for Langmuir W4 involved the following procedures:

- Database compilation and verification;
- Construction of wireframe models for major lithological units and nickel mineralization, using borehole data, structural trends and sectional interpretations provided by Golden Chalice;
- Definition of geostatistical resource domains within the geological models;
- Data conditioning (compositing and capping) for statistical and geostatistical analysis;
- Variography;
- Block modelling and grade interpolation;
- Resource classification and validation;
- Assessment of "reasonable prospects for economic extraction" and selection of appropriate cut-off grades; and
- Preparation of Mineral Resource Statement.

#### 16.3 Resource Database

Exploration data used to evaluate the mineral resources for Langmuir W4 was provided to SRK by Golden Chalice as a drill hole database in Excel format. The database includes 69 core boreholes (22,152 metres) drilled by Golden Chalice in 2007 and 2008.

All exploration information is located using a UTM grid (NAD83, Zone 17N). Resource modelling and grade estimation was conducted in this UTM coordinate space.

The drill hole database includes:

- Collar file (located using UTM, Nad83) for 69 drill holes;
- Survey file containing 663 records, with survey measurements taken at irregular intervals;
- Assay file for 5,788 sample intervals with analyses for gold, platinum and palladium (in parts per billion, "ppb") as well as for silver, copper, nickel, zinc, lead and cobalt (in parts per million, "ppm"); and
- Geology file with 1,664 lithology intervals.

The database represents the Langmuir W4 exploration dataset as at February 5, 2010.

In addition to borehole data, Golden Chalice provided SRK with electronic 2D scans (in pdf format) of the geological interpretation depicting key geology indicators and mineralization along vertical sections at spacings of 25 metres and plan across the entire strike length of the deposit.

A 3D model of the Langmuir W4 mineralized zones based on information provided by Golden Chalice produced by Burt (2009) using Surpac software was also provided to SRK. SRK was also provided with a specific gravity dataset comprising 90 records.

Upon receipt of the drill data, SRK performed the following validation steps:

- Routine validation of interval for overlap, gap, or values outside of expected ranges;
- Checking for inconsistency in lithological unit terminology and/or gaps in the lithological table;
- Checking for gaps, overlaps and out of sequence intervals for both assays and lithology tables; and
- Reviewing of analytical quality control data.

On completion of the validation procedure, SRK considers the quality of the exploration database is suitable for resource estimation with no obvious discrepancies that could materially impact the Mineral Resource Statement.

SRK is of the opinion that the current drilling information is sufficiently reliable to interpret the outlines of the lithologies and sulphide mineralization with reasonable confidence and that the assay data is sufficiently reliable to support the mineral resource estimation.

#### 16.4 Solid Body Modelling and Sub-Domain Definition

SRK constructed a series of 3D wireframes for the major lithological units at Langmuir W4 including the komatiitic host rocks which are cross-cut and surrounded by various intrusive rocks (including mafic, felsic, diabase and granodiorite units), based on information from drill data and from local geology maps.

Mineralization domain wireframes were constructed partially from digital 2D sectional interpretations received from Golden Chalice and from composited drill data. These sectional interpretations (spaced at 25 metres) were georeferenced and digitized prior to being linked in 3D. The definition of the mineralized domains at Langmuir W4 involved detailed discussions between Golden Chalice and SRK. Sulphide mineralization at Langmuir W4 has been interpreted and modelled by Golden Chalice as three sub-parallel nickel sulphide zones hosted by komatiitic peridotite flows. East-west trending komatiite flow units are vertical to steeply north dipping at 70 to 75 degrees and display well developed spinifex tops and are separated by thin graphitic argillite interflow units. The nickel sulphide mineralization consists of primarily pentlandite-pyrrhotite occurring as fine disseminations, fracture fillings, and blebs. Immediately south of the peridotite flows in the Langmuir W4 area, a pink medium grained hornblende rich granodiorite intrusion is present.

SRK used composited drill hole data, the 2D sectional interpretations from Golden Chalice as well as local knowledge of neighbouring nickel deposits to define 3D mineralization domains. 3D nickel grade shells were generated by

manual interpretation guided by Leapfrog software derived grade shells. Three nickel grade thresholds (low grade: 0.3 to 0.5 percent nickel, medium grade: 0.5 to 1.0 percent nickel and high grade: >1.0 percent nickel) were used to subdivide the sulphide mineralization into resource domains and these were used as hard boundaries for mineral resource estimation. The final shape and extent of the sulphide mineralization wireframes was a collaborative effort between Golden Chalice and SRK staff (Figure 16).

SRK also constructed an overburden surface from drill data. Resource domains were cut to this surface. In the absence of a reliable topographic surface, SRK created a topographic surface from drill collar information. This is not ideal and SRK recommends that the surface area surrounding the Langmuir W4 area be surveyed by a land surveyor.

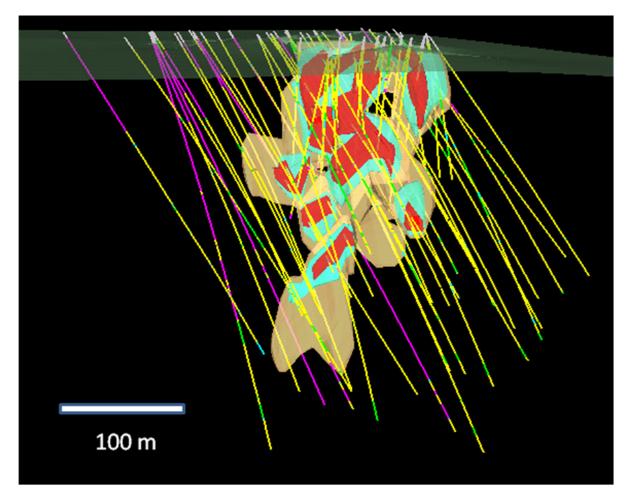


Figure 16: Model of modelled sulphide domains (high grade=red, medium grade=blue and low grade=yellow) in relation to lithocoded drill holes and overburden surface. View looking south

#### 16.5 Compositing

The Langmuir W4 drilling data contains an assay file for 5,788 sample intervals with analyses for gold, platinum and palladium (in ppb) as well as for silver, copper, nickel, zinc, lead and cobalt (ppm). Sample lengths range from 0.2 to 2.0 metres, averaging 0.94 metres. A histogram of sampled lengths for Langmuir W4 core is shown in Figure 12 and a tabulation of the basic statistics of this length data is provided in Table 9.

SRK notes that for unsampled intervals as well as for intervals where analyses are below the detection limit, a constant value equal to half the detection limit was inserted in the database. The assay data within each of the three domains were extracted for statistical analysis. For geostatistical analysis, variography and grade estimation, raw assay data were composited to equal one metre lengths. Ninety eight percent of assay data were sampled at lengths of one metre or less.

Table 9: Basic Statistics of Drill hole Samples for Langmuir W4

Variable	Count	Minimum	Maximum	Mean	SD	C.O.V.
Sample length (m)	5,788	0.20	2.00	0.94	0.16	0.17

#### 16.6 Evaluation of Outlier Assays

SRK constructed cumulative probability curves for nickel, copper, cobalt, platinum and palladium composites within each resource domain. Considering the nature of the statistical distributions, SRK is of the opinion that it is necessary to cap high-grade values to limit their influence during grade estimation. The impact of capping was analyzed and capping levels were adjusted for each resource domain and each metal separately. Capping was applied to the composited data. A very low percentage of the database has been capped. Capping levels applied to domainal composited data are summarized in Table 10.

	Domain 0.3		Doma	ain 0.5	Domain 1.0		
Element	Value	Percentile	Value	Percentile	Value	Percentile	
Ni (ppm)	23,000	97.00%	23,000	98.00%	60,000	98.50%	
Cu (ppm)	1,700	97.00%	2,100	98.50%	4,500	98.30%	
Co (ppm)	290	98.00%	290	98.50%	450	95.00%	
Pt (ppb)	180	98.30%	180	98.00%	325	93.00%	
Pd (ppb)	380	98.30%	380	98.80%	950	97.00%	

 Table 10: Capping Levels for Each Metal Applied In Each Domain

#### 16.7 Statistics

The nickel basic statistics for the original, composited and capped composited data within the three resource domains are tabulated in Table 11, Table 12 and Table 13.

Table 11: Basic Statistics of the Original Assays in Domains 0.3, 0.5 and 1.0

Element	Domain	Number of Samples	Maximum	Minimum	Mean	Variance	Standard Deviation
	0.3	540	120,300	3	3,649	44,365,857	6,661
Ni (ppm)	0.5	349	66,100	3	4,281	40,277,808	6,346
	1.0	405	179,000	900	16,472	230,787,445	15,192
	0.3	540	14,700	3	249	328,696	573
Cu (ppm)	0.5	349	13,700	3	361	943,540	971
	1.0	405	15,300	50	1,274	1,970,177	1,404
	0.3	540	922	3	78	6,125	78
Co (ppm)	0.5	349	995	3	92	11,078	105
	1.0	405	6,551	27	217	84,652	291
	0.3	540	2,856	3	34	10,237	101
Pt (ppb)	0.5	349	536	3	36	3,070	55
	1.0	405	670	3	139	14,383	120
	0.3	540	7,171	3	66	46,794	216
Pd (ppb)	0.5	349	781	3	72	10,727	104
	1.0	405	2,252	3	327	81,282	285

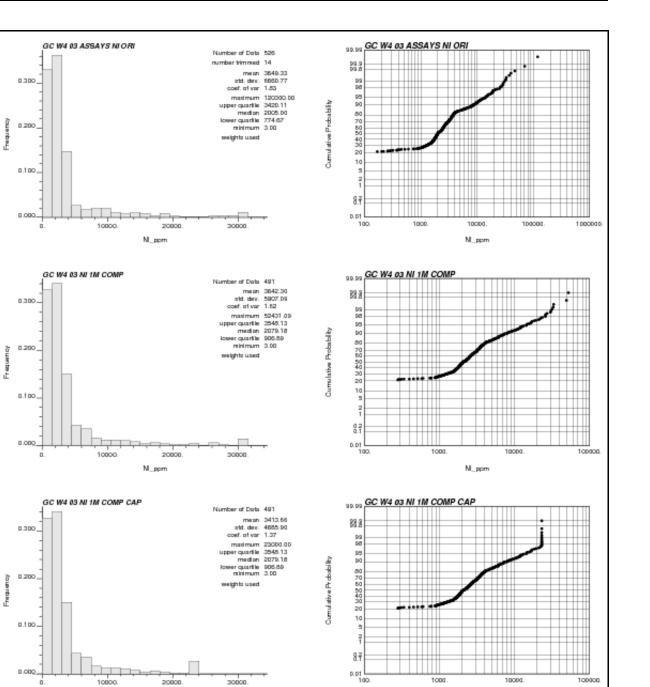
Table 12: Basic Statistics of the Composite Data in Domains 0.3,0.5 and 1.0

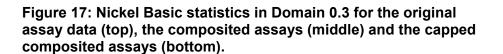
		Number of					Standard
Element	Domain	Samples	Maximum	Minimum	Mean	Variance	Deviation
	0.3	491	52,431	3	3,642	34,893,712	5,907
Ni (ppm)	0.5	316	58,521	3	4,281	35,521,600	5,960
	1.0	343	106,344	1,568	16,472	182,343,972	13,503
	0.3	491	5,797	3	247	216,467	465
Cu (ppm)	0.5	316	10,600	3	361	818,573	905
	1.0	343	13,341	51	1,274	1,806,847	1,344
	0.3	491	619	3	78	49,773,025	7,055
Co (ppm)	0.5	316	995	3	92	9,924	100
	1.0	343	3,574	57	217	50,037	224
	0.3	491	1,572	3	34	7,641	87
Pt (ppb)	0.5	316	512	3	36	2,593	51
	1.0	343	670	3	139	12,232	111
	0.3	491	2,545	3	66	24,561	157
Pd (ppb)	0.5	316	564	3	72	9,249	96
	1.0	343	1,544	3	327	67,122	259

Element	Domain	Number of Samples	Maximum	Minimum	Mean	Variance	Standard Deviation
	0.3	491	23,000	3	3,414	21,957,659	4,686
Ni (ppm)	0.5	316	23,000	3	4,078	23,145,721	4,811
	1.0	343	60,000	1,568	16,103	136,869,877	11,699
	0.3	491	1,700	3	226	111,309	334
Cu (ppm)	0.5	316	2,100	3	302	196,719	444
	1.0	343	4,500	51	1,194	837,701	915
	0.3	491	290	3	76	3,582	60
Co (ppm)	0.5	316	290	3	87	5,264	73
	1.0	343	450	57	199	8,947	95
	0.3	491	180	3	29	1,675	41
Pt (ppb)	0.5	316	180	3	35	1,707	41
	1.0	343	325	3	130	7,417	86
Pd (ppb)	0.3	491	380	3	57	7,744	88
	0.5	316	380	3	70	7,873	89
	1.0	343	950	3	318	51,938	228

## Table 13: Statistics of the Capped Composite Data in Domains 0.3,0.5 and 1.0

Domainal nickel basic statistics for the original, composited and capped composited data within the three resource domains are also graphically summarized in Figure 17, Figure 18 and Figure 19.

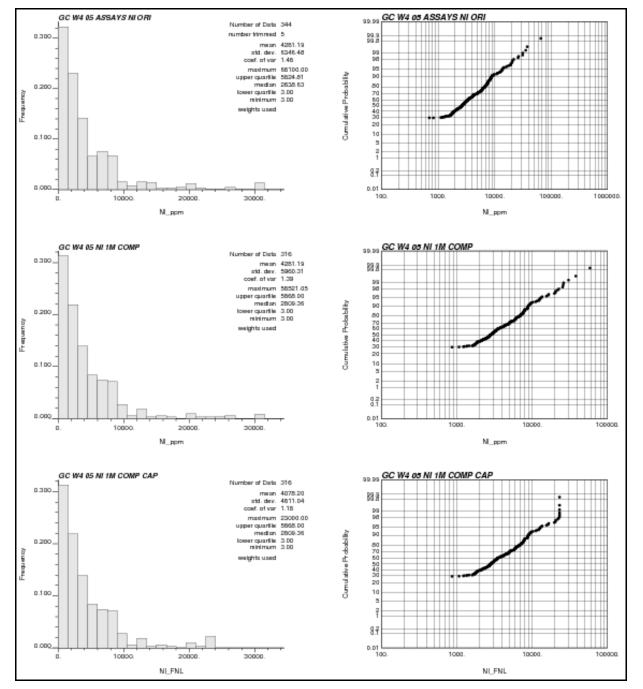


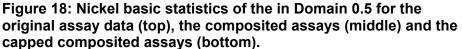


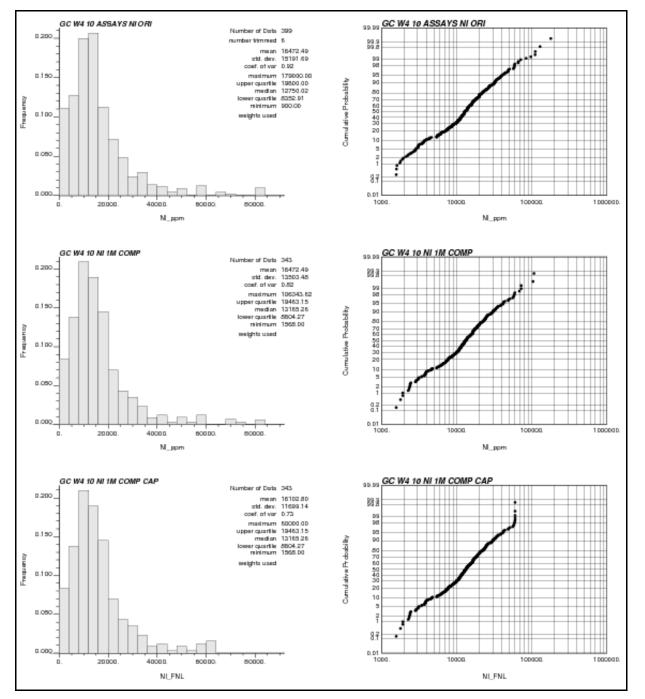
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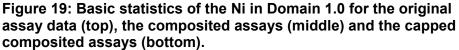
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### 16.8 Resource Estimation Methodology

The Langmuir W4 resource block model was generated using Datamine Studio Version 3 software. The block model was created to adequately cater for the full extent of all modeled sulphide mineralization. Criteria used in the selection of block size include the borehole spacing, composite assay length, consideration of the potential size of smallest mining unit and the geometry of the modelled sulphide mineralized zones. Parent block size was set at five by five by five metres, with the parent blocks split up to three times to ensure that wireframe volumetrics were honoured. The characteristics of the unrotated block model are summarized in Table 14.

Wireframes were used to constrain interpolation of block metal grades. Metal grades were estimated generally using ordinary kriging ("OK") as the principal estimator. Metal grades were estimated separately in each domain from capped composite data from within that domain. Platinum and palladium grades in all three domains were estimated using an inverse distance algorithm using the nickel search distances and orientations as there are not sufficient composites to derive reliable variograms for these metals.

Axis	Block Size (m)	Origin	Number of Cells	Rotation Angle
Х	5	497,250	80	-
Y	5	5,349,350	70	-
Z	5	-150	100	-

**Table 14: Langmuir W4 Block Model Parameters** 

### 16.9 Variography

Variography was completed using Isatis (version 9.05) to characterize the spatial continuity of one metre capped composites within the 0.3, 0.5 and 1.0 domains.

Prior to modelling, spatial trends within the data were noted in order to rotate the search ellipse into the data plane. Variogram maps were employed to investigate geometric anisotropy within the X-Y plane. Variography was also conducted in the Z plane normal to the X-Y plane. The Z plane lag length was one metre which is equivalent to the composite length whereas the X-Y plane lag was 25 metres which approximates the average drill spacing.

Variography was performed for nickel, copper and cobalt data. Scatter plots of the variables were investigated for correlation. Variograms were modelled individually with original capped composite data for each resource domain. SRK found that it is not necessary to transform the data to a Gaussian distribution to achieve stable variograms.

With the exception of nickel and copper within the 1.0 domain, all variograms are isotropic within the X-Y plane. The range is shorter in the Z direction,

resulting in an overall anisotropic disc-like search ellipsoid. The lower grade domain is characterized by slightly longer ranges than the high grade domain. All the variances were normalized to one and the variogram rotations were checked prior to grade interpolation. In all cases two structure spherical variograms models were modelled. Modelled variogram parameters are presented in Table 15, whereas illustrative modelled variograms for nickel within the 0.5 domain (medium grade) are shown in Figure 20.

Table 15: V	Variogram	<b>Parameters</b>	for Langmuir	W4 Domains 0.3,
0.5 and 1.0	)		-	

Variogram parameters							Rotations*							
Domain	Metal	C0	C1	C2	R1x	R1y	R1z	R2x	R2y	R2z	Sill	Angle X'	Angle Y'	Angle Z'
	Ni	0.163	0.285	0.553	6	6	6	60	60	15	1	3	0	71
0.3	Cu	0.110	0.315	0.575	5	5	5	75	75	15	1	3	0	71
	Со	0.125	0.438	0.438	5	5	5	85	85	15	1	3	0	71
	Ni	0.161	0.484	0.355	5	5	5	50	50	15	1	3	0	71
0.5	Cu	0.278	0.069	0.653	5	5	5	75	75	15	1	3	0	71
	Со	0.113	0.338	0.549	5	5	5	50	50	15	1	3	0	71
1.0	Ni	0.246	0.328	0.426	5	5	5	50	25	10	1	3	-45	71
	Cu	0.244	0.244	0.512	5	5	5	50	25	10	1	3	-45	71
	Со	0.250	0.483	0.267	5	5	5	50	50	10	1	3	-45	71

\* Variogram rotation axis in Isatis convention

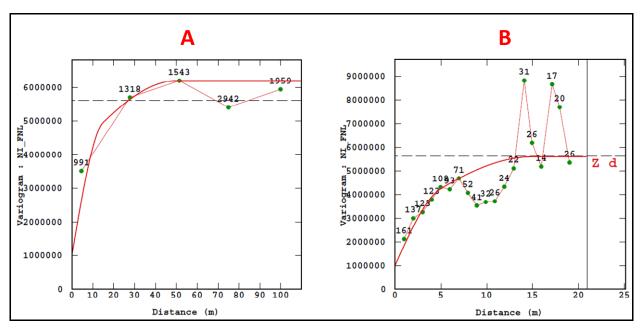


Figure 20: Sample nickel variograms for Domain 0.5. A: isotropic variogram for the X-Y plane; B: Variogram in the Z-plane.

### 16.10 Grade Interpolation

Nickel, copper and cobalt grades were estimated using ordinary kriging as the principal estimator. Metal grades were estimated separately in each domain from capped composite data within that domain. Platinum and palladium grades in all three domains were estimated using an inverse distance algorithm using the nickel search distances and orientations as there are not sufficient composites to derive reliable variograms for these metals. Kriging parameters were derived from variogram models presented in Table 15 and Figure 20. Grade estimation was completed in two successive passes considering estimation parameters summarized in Table 16 and search neighbourhood sizing summarized in Table 17. The first estimation pass generally considers search neighbourhood adjusted to full variogram ranges. The size of the search ellipse is doubled for the second estimation pass.

Axis	1 <sup>st</sup> Pass	2 <sup>nd</sup> Pass
Interpolation Method	OK / ID2	OK / ID2
Octant Search	Yes	Yes
Minimum number of Octants	2	2
Minimum number of Composites per Octant	1	1
Maximum number of Composites per Octant	4	4
Minimum number of Composites	3	3
Maximum number of Composites	20	20
Maximum number of Composites per Hole	2	2

#### Table 16: Langmuir W4 Resource Estimation Parameters

## Table 17: First Pass Search Parameters Used for GradeEstimation

Domain Element –		Ro	tation*		Distance		
		Χ'	Ζ'	Ζ'	X (m)	Y (m)	Z (m)
	Ni	3	0	71	60	60	10
	Cu	3	0	71	75	75	10
0.3	Co	3	0	71	85	85	10
	Pt	3	0	71	60	60	10
	Pd	3	0	71	60	60	10
	Ni	3	0	71	50	25	10
	Cu	3	0	71	75	75	10
0.5	Co	3	0	71	45	45	10
	Pt	3	0	71	50	25	10
	Pd	3	0	71	50	25	10
	Ni	3	-45	71	50	25	10
	Cu	3	-45	71	50	25	10
1.0	Co	3	-45	71	50	50	10
	Pt	3	-45	71	50	25	10
	Pd	3	-45	71	50	25	10

\* Variogram rotation axis in Isatis convention

### **16.11 Mineral Resource Classification**

Mineral resources for the Langmuir W4 deposit were classified according to the CIM Definition Standards for Mineral Resources and Mineral Reserves (December 2005) by Sebastien Bernier, P.Geo (OGQ#1034) and Glen Cole, P.Geo (APGO#1416), appropriate independent qualified persons for the purpose of National Instrument 43-101.

The mineral resources are classified as Indicated and Inferred, primarily based on block distance from the nearest informing composites and on variography results. Classification is based on nickel data alone. Generally, an Indicated classification is assigned to blocks estimated during the first estimation pass using full variogram ranges, whereas an Inferred classification is assigned to all other blocks estimated during the second estimation pass. Block model classification was assigned in a two stage process. The first stage is the automatic classification assigned during the two estimation passes. The resource category outlines were smoothed manually in a second stage to remove isolated blocks. The result of the two stage classification process is illustrated in Figure 21.

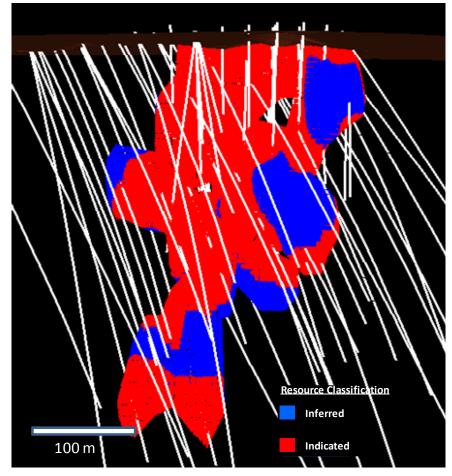


Figure 21: Schematic Vertical Section Illustrating Langmuir W4 Block Model Classification. View Looking South

CIM Definition Standards for Mineral Resources and Mineral Reserves (December 2005) defines a mineral resource as:

"(A) concentration or occurrence of diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal, and industrial minerals in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge".

The "reasonable prospects for economic extraction" requirement generally implies that the quantity and grade estimates meet certain economic thresholds and that the mineral resources are reported at an appropriate cut-off grade taking into account extraction scenarios and processing recoveries. To meet this requirement, SRK considers that major portions of the Langmuir W4 nickel mineralization are amenable for open pit extraction, while deeper portions could be extracted using an underground mining method.

In order to determine the quantities of material offering "reasonable prospects for economic extraction" by an open pit, SRK used Whittle software, which evaluates the profitability of each resource block based on its value. Optimization parameters were selected based on discussions with Golden Chalice and benchmarking with similar projects (Table 18). The reader is cautioned that the results from the pit optimization are used solely for the purpose of reporting mineral resources that have "reasonable prospects for economic extraction" by an open pit and do not represent an attempt to estimate mineral reserves. This requires a thorough economic study at prefeasibility level. No mineral reserves are estimated for Langmuir W4. The block model quantities and grade estimates were also reviewed to determine the portions of the Langmuir W4 deposit having "reasonable prospects for economic extraction" from an underground mine.

The mineral resources for the Langmuir W4 deposit are reported at two nickel cut-off grades (0.4 and 0.7 percent) based on open pit and underground mining scenarios, respectively. SRK considers that the material within the conceptual pit shell offers reasonable prospects for economic extraction from an open pit whereas material below the conceptual pit shell offer reasonable prospects for economic extraction by underground mining methods. The conceptual pit shell drives to a maximum depth of 170 metres below the surface (Figure 22). Resource blocks above this depth were considered by SRK to be amenable to open pit extraction and blocks below this depth amenable to underground mining methods and are reported as such.

Table 18: Conceptual Pit Optimization Assumptions Considered
for Open Pit Resource Reporting

Parameter	Assumption
Inter-ramp wall angle	50 all walls (degrees)
Mining cost (ore and waste)	CN\$2.00 per tonne of rock
G & A costs	CN\$3.25 per tonne of feed
Milling cost:	CN\$10.00 per tonne
Process recovery	87 percent
Nickel price:	US\$8 per pound
Mining dilution and losses	5.0 percent
Exchange rate (CN\$/US\$)	1.0

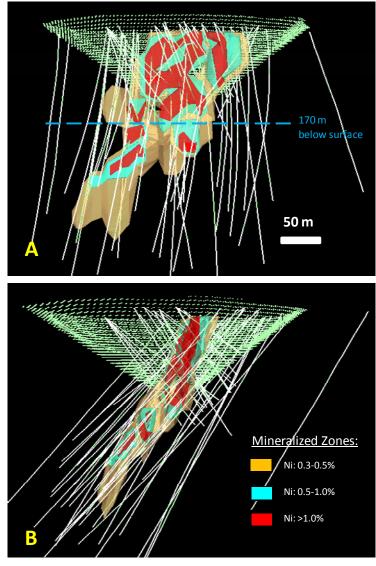


Figure 22: Longitudinal Sections showing the Modelled Nickel Domains in relation to the Conceptual Pit Shell. A=View Looking South, B=View looking East

### **16.12Estimation Validation**

The mineral resource model prepared by SRK was validated by visually comparing block and drill hole grades on section by section and elevation by elevation basis. Two representative cross sections across the Langmuir W4 deposit showing block model nickel grades in relation to modelled domains, conceptual pit outline and drill holes are presented in Appendix D.

A parallel resource estimate run using an inverse distance estimator was found to produce very similar results to the primary ordinary kriging estimator.

Quantile-quantile plots comparing resource block and the informing capped composite data were also constructed for nickel in each domain (shown in Appendix E). These plots show the usual smoothing effect of kriging particularly at higher grades, but confirm that the block model is representative of the informing data.

#### 16.13 Mineral Resource Statement

The mineral resources statement was prepared on the basis of nickel content only. Copper, cobalt and platinum and palladium grades were estimated in the block model however cobalt and platinum and palladium do not contribute significantly to the value of the nickel sulphide mineralization. Accordingly, the mineral resource statement for Langmuir W4 is reported on the basis of nickel and copper only.

A Consolidated Mineral Resources Statement for Langmuir W4 is presented in Table 19. The mineral resources for each modeled resource domain are presented in Table 20.

Category	Quantity	Grade		Met	al
	Tonnes	Ni	Cu	Ni	Cu
		%	%	lbs 000's	lbs 000's
Open Pit**					
Indicated	590,000	0.99	0.06	12,816	840
Inferred	125,000	0.88	0.06	2,437	157
Underground **					
Indicated	87,000	1.04	0.08	1,997	149
Inferred	46,000	0.91	0.05	923	53
Combined					
Indicated	677,000	1.00	0.06	14,813	989
Inferred	171,000	0.89	0.06	3,360	210

# Table 19: Consolidated Mineral Resource Statement\*, Langmuir W4 Project, Ontario, SRK Consulting, April, 27 2010

\* Mineral resources are reported in relation to optimized pit shells. Mineral resources are not mineral reserves and do not have demonstrated economic viability. All figures are rounded to reflect the relative accuracy of the estimate. All assays have been capped where appropriate.

\*\* Open pit mineral resources are reported at a cut-off of 0.40 percent nickel inside a conceptual pit shell. Underground mineral resources are reported at 0.70 percent nickel and include resource blocks above cut-off outside the conceptual pit shell. Cut-off grades are based on a nickel price of US\$8 per pound and a metallurgical recovery of eighty-seven percent, without considering revenues from other metals.

Page 67

The Mineral Resources Statement for Langmuir W4 prepared by SRK contains 677,000 tonnes grading an average of 1.00 percent nickel and 0.06 percent copper in the Indicated category; with an additional 171,000 tonnes grading an average of 0.89 percent nickel and 0.06 percent copper in the Inferred category comprising both open pit and underground resources.

The Langmuir W4 mineral resources are highly sensitive to reporting cut-off grade. This sensitivity is shown for the classified block model quantities and grade estimates for the potential open pit and underground material in Table 21 and Table 22. Comparative grade tonnage curves for Indicated and Inferred material for potential open pit and underground material is presented in Figure 23. The reader is cautioned that the figures in Table 21 and Table 22 should not be confused with a Mineral Resource Statement. The figures are only presented to show the sensitivity of the block model estimates to the selection of cut-off grade.

		Quantity Grade			Metal			
Cotogony	Domain	Quantity	Ni	Cu	Ni	aı Cu		
Category	Domain	Tonnes 000't	NI %	°Cu		lbs 000's		
O		0001	70	70	lbs 000's	105 000 5		
Open Pit**								
Indicated	Low Grade	244,000	0.75	0.04	4,016	218		
	Medium Grade	192,000	0.69	0.05	2,903	198		
	High Grade	154,000	1.73	0.12	5,897	424		
	Sub-Total	590,000	0.99	0.06	12,816	840		
Inferred	Low Grade	84,000	0.70	0.04	1,294	81		
	Medium Grade	27,000	0.71	0.05	429	32		
	High Grade	14,000	2.24	0.14	714	45		
	Sub-Total	125,000	0.88	0.06	2,437	157		
Underground **								
Indicated	Low Grade	49,000	0.90	0.06	976	67		
	Medium Grade	23,000	1.01	0.08	511	41		
	High Grade	15,000	1.52	0.12	510	42		
	Sub-Total	87,000	1.04	0.08	1,997	149		
Inferred	Low Grade	22,000	0.89	0.06	435	27		
	Medium Grade	23,000	0.89	0.05	444	23		
	High Grade	1,000	1.73	0.15	44	4		
	Sub-Total	46,000	0.91	0.05	923	53		
Combined								
Indicated	Low Grade	293,000	0.78	0.04	4,992	285		
	Medium Grade	215,000	0.72	0.05	3,414	239		
	High Grade	169,000	1.71	0.12	6,407	466		
	Sub-Total	677,000	1.00	0.06	14,813	989		
Inferred	Low Grade	106,000	0.74	0.04	1,729	108		
	Medium Grade	50,000	0.79	0.05	873	55		
	High Grade	15,000	2.21	0.14	758	49		
	Sub-Total	171,000	0.89	0.06	3,360	210		

## Table 20: Mineral Resource Statement\*, Langmuir W4 Project,Ontario, SRK Consulting, April, 27 2010.

\* Mineral resources are reported in relation to optimized pit shells. Mineral resources are not mineral reserves and do not have demonstrated economic viability. All figures are rounded to reflect the relative accuracy of the estimate. All assays have been capped where appropriate.

\*\* Open pit mineral resources are reported at a cut-off of 0.40 percent nickel. Underground mineral resources are reported at 0.70 percent nickel. Cut-off grades are based on a nickel price of US8/lb and a metallurgical recovery of eighty-seven percent, without considering revenues from other metals.

## Table 21: Block Model Quantities and Grade Estimates\* forPotential Open Pit and Underground Material

	Indicate	d	Inferre	d
Ni % Cut-off	Quantity	Grade	Quantity	Grade
	(Tonnes)	(Ni %)	(Tonnes)	(Ni %)
0.0	1,047,936	0.65	221,570	0.59
0.1	993,593	0.69	200,830	0.65
0.2	891,394	0.75	178,075	0.71
0.3	698,636	0.89	152,157	0.79
0.4	590,134	0.99	125,246	0.88
0.5	484,296	1.10	102,826	0.98
0.6	392,884	1.23	76,996	1.12
0.7	328,589	1.34	54,272	1.32
0.8	276,195	1.46	44,197	1.44
0.9	244,897	1.53	36,108	1.58
1.0	211,882	1.63	28,667	1.74
1.1	186,664	1.71	21,797	1.96
1.2	163,646	1.78	18,866	2.09
1.3	163,646	1.78	18,866	2.09
1.4	138,632	1.88	16,866	2.19
1.5	118,619	1.95	15,554	2.25

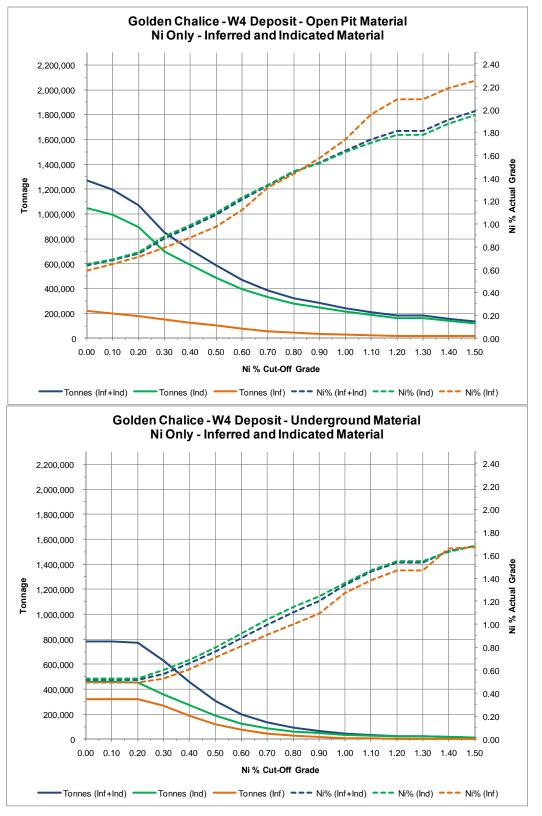
Open Pit Material (inside conceptual pit shell):

\* The reader is cautioned that the figures in this table should not be misconstrued with a Mineral Resource Statement. The figures are only presented to show the sensitivity of the block model estimates to the selection of cut-off grade.

Underground Material (below conceptual pit shell):

	Indicat	ed	Inferre	d
Ni % Cut-off	Quantity	Grade	Quantity	Grade
	(Tonnes)	(Ni %)	(Tonnes)	(Ni %)
0.0	457,400	0.53	322,364	0.49
0.1	457,400	0.53	322,364	0.49
0.2	452,495	0.53	320,256	0.49
0.3	360,114	0.60	269,888	0.53
0.4	271,312	0.69	188,204	0.61
0.5	187,503	0.80	118,018	0.71
0.6	125,057	0.92	74,749	0.81
0.7	87,199	1.04	46,098	0.91
0.8	63,015	1.15	29,519	1.00
0.9	48,850	1.24	18,051	1.09
1.0	34,924	1.36	8,248	1.27
1.1	26,104	1.47	5,505	1.38
1.2	20,792	1.55	3,934	1.47
1.3	20,792	1.55	3,934	1.47
1.4	16,106	1.63	2,215	1.66
1.5	13,076	1.68	2,174	1.67

\* The reader is cautioned that the figures in this table should not be misconstrued with a Mineral Resource Statement. The figures are only presented to show the sensitivity of the block model estimates to the selection of cut-off grade.



#### Figure 23: Comparative Grade Tonnage Curves for Indicated and Inferred Material: Top = Open pit material and Below = Underground mining material

	Indicat	ed	Inferre	ed
Ni % Cut-off	Quantity	Grade	Quantity	Grade
	(Tonnes)	(Ni %)	(Tonnes)	(Ni %)
0.0	1,505,335	0.62	543,934	0.53
0.1	1,450,992	0.64	523,193	0.55
0.2	1,343,889	0.68	498,330	0.57
0.3	1,058,749	0.79	422,045	0.62
0.4	861,447	0.89	313,450	0.72
0.5	671,799	1.02	220,845	0.83
0.6	517,942	1.16	151,744	0.97
0.7	415,788	1.28	100,371	1.13
0.8	339,210	1.40	73,716	1.27
0.9	293,747	1.49	54,159	1.42
1.0	246,807	1.59	36,915	1.64
1.1	212,768	1.68	27,302	1.84
1.2	184,438	1.76	22,800	1.98
1.3	184,438	1.76	22,800	1.98
1.4	154,738	1.85	19,081	2.13
1.5	131,694	1.93	17,728	2.18

# Table 22: Block Model Quantities and Grade Estimates\* for Combined Potential Open Pit and Underground Material

\* The reader is cautioned that the figures in this table should not be misconstrued with a Mineral Resource Statement. The figures are only presented to show the sensitivity of the block model estimates to the selection of cut-off grade.

## **17 Other Relevant Data**

SRK is not aware of any other relevant data.

## **18 Interpretation and Conclusions**

Since commencing exploration on the Langmuir Property in 2005, Golden Chalice has implemented a focused and innovative multi-phase exploration program targeting Kambalda style nickel mineralization in the ultramafic flow stratigraphy on the property. Airborne VTEM anomaly delineation follow-up drilling led to the significant core length intersection of 1.14 percent nickel over 72.50 metres in drill hole GCL07-06 in May 2007 in the W4 project area. This provided the incentive for the subsequent delineation drilling program of 69 drill holes (for 22,152 metres) in the Langmuir W4 area, which provided the data upon which this resource estimate is based.

The Langmuir Property comprises 13,842 hectares of claims which contain komatiite-hosted nickel-copper-platinum group metals sulphide mineralization, similar to other mined nickel deposits within the Shaw Dome.

The experienced Golden Chalice exploration team used industry best practices to acquire, manage and interpret exploration data collected for the Langmuir W4. SRK reviewed the data acquired by Golden Chalice and is of the opinion that the exploration data are sufficiently reliable to interpret with confidence the boundaries of the nickel mineralization and support evaluation and classification of mineral resources in accordance with generally accepted CIM "Estimation of Mineral Resource and Mineral Reserve Best Practices".

The mineral resources for Langmuir W4 have been evaluated in a systematic and professional manner. The mineral resource evaluation reported herein is reported according to CIM "Definition Standards for Mineral Resources and Mineral Reserves" (December 2005). The mineral resource statement prepared by SRK is reported at two cut-off grades after considering the likely extraction scenario. Open pit mineral resources are reported at a cut-off of 0.40 percent nickel and include all Indicated and Inferred blocks above the deepest elevation of the conceptual pit shell. Underground mineral resources are reported at a cut-off grade of 0.70 percent nickel.

The mineral resource statement prepared by SRK reflects current knowledge of the Langmuir W4 nickel mineralization continuity and associated grade trends. Data density decreases with depth, providing an opportunity to upgrade the resources especially in the deeper portion of the ore body (>170 metres) by increasing the drilling density as well as by increasing our understanding of the structural geology framework upon which the Langmuir W4 deposit is based. A revised structural geology based resource model that could result will not only lead to upgraded resources, but also to reduced risk in future mining decisions based on this model.

In a relatively short period of time, Golden Chalice has made an exciting new nickel sulphide discovery in the Shaw Dome and have delineated by drilling a substantial sulphide deposit supporting the disclosure of an initial mineral resource statement containing 677,000 tonnes grading an average of 1.00 percent nickel and 0.06 percent copper in the Indicated category; with an additional 171,000 tonnes grading an average of 0.89 percent nickel and 0.06

percent copper in the Inferred category comprising both open pit and underground resources.

SRK notes that the Langmuir W4 sulphide deposit occupies only a small footprint of the larger Golden Chalice controlled Langmuir Property. Regional geophysical surveys conducted by Golden Chalice and the results from regional exploration drilling outside the Langmuir W4 Project area have emphasized the existence of various other largely untested exploration targets within the Langmuir Property.

The characteristics of Langmuir W4 are of sufficient merit to justify undertaking preliminary engineering, environmental and metallurgical studies aimed at completing the characterization of the nickel sulphide mineralization. This would provide a snapshot assessment of the current information base at Langmuir W4, which can provide economic guidelines for future exploration strategies within the Langmuir Property.

## **19 Recommendations**

The geological setting and character of the nickel sulphide mineralization delineated to date on Langmuir W4 are of sufficient merit to justify additional exploration and development expenditures. The work program recommended by SRK has two parts: Firstly to continue the exploration of the known sulphide mineralization and secondly to commence with characterization of the deposit, in preparation for evaluating the feasibility of a mine project. The proposed work program includes three components:

- Infill and step-out drilling to expand the mineral resources and improve resource classification;
- Geological studies and enhanced exploration procedures aimed at improving the understanding of the geological setting of the deposit; and
- Mine design, metallurgical and environmental studies to support the design of a conceptual mine and to provide key assumptions for the base case of an economic model considered for a Preliminary Economic Assessment.

#### **Resource Drilling**

The current geology and resource model should be used as an exploration tool for optimizing drilling programs. SRK considers that additional drilling is required to:

- Infill gaps in the drilling data with the potential to increase the mineral resources and to provide additional data to enhance the geology / structural model; and
- Infill areas of Inferred resources to improve the resource classification (such as the deeper parts of the conceptual pit and the potential underground resources).

Golden Chalice anticipate investing about CN\$1.9 million in exploration drilling with the objective of increasing and upgrading the Langmuir W4 mineral resources. This budget includes a provision of some 7,500 metres for deep drilling and another 5,000 metres for infill drilling. SRK is of the opinion that this drilling program is justified.

#### **Geological Studies and Exploration Procedures**

Significant nickel mineralization has been identified by Golden Chalice at Langmuir W4. Confidence in estimating mineral resources at Langmuir W4 is determined by various factors, including:

- An appreciation of the variables associated with komatiite-associated nickel-copper deposits;
- An understanding of the 3D structural geological framework within which the nickel sulphide mineralization resides;
- The drilling density; and
- Quality control procedures used to collect exploration data.

In this context SRK propose the following recommendations:

- Golden Chalice exploration staff should visit the nearby Redstone and McWatters mines to appreciate the variables associated with komatiite-associated nickel-copper deposits;
- The surface area surrounding the Langmuir W4 area should be surveyed by a land surveyor;
- A structural geology study is recommended to constrain the structural control on the distribution of the nickel sulphide mineralization;
- The 3D geology model and grade shells produced for the construction of the initial mineral resource model should be updated on site with new drill data and considering structural geology controls;
- Geotechnical and geohydrological information should be collected as part of the standard field practices for all future drilling;
- Monitoring assaying results as they are received from the assay laboratory, including analysis analytical quality control data. Possible failures and abnormal results should be recorded and investigated and appropriate remedial action taken, if required;
- Regular submission of check assays to an umpire laboratory; and
- Poorly performing non-certified standards should be reviewed and discontinued if necessary and substituted by standards created from project material.

#### Mine Design, Metallurgical and Other Studies

SRK recommends that Golden Chalice initiates certain mine design studies aimed at evaluating at a conceptual level the feasibility of a combined open pit mine and underground mine on Langmuir W4. Specific metallurgical and environmental studies are also required to support future mining economic assessments. Specifically, the proposed work program includes:

- Updating the mineral resource model after completion of recommended drilling;
- Acid Base Accounting ("ABA") testing and geochemical characterization of sulphide and barren rocks;
- Reviewing geotechnical data including recommendations for improving field geotechnical data collection and consideration for specific geotechnical drilling;
- Reviewing existing hydrology and hydrogeology data with the view of assessing any gap in the project data and recommending additional field work, if required;
- Commencement of environmental baseline studies to support the preparation of an Environmental Impact Assessment. This should include monitoring of water quality, wildlife habitats and other aspects for which long-term and seasonal data are required;
- Metallurgical testwork on material from all resource domains to complete the characterization of the Langmuir W4 sulphide mineralization and to evaluate appropriate process options for this nickel sulphide mineralization; and
- Conceptual mine design work to evaluate which mining scenarios offer the best potential for economic return;

The total cost for the recommended overall work program is estimated at approximately CN\$2.9 million (Table 23).

# Table 23: Estimated Budget for the Langmuir W4 ExplorationProgram

Description	scription Units		Total Cost (CN\$)			
Delineation Drilling (infill and step out)						
Diamond drilling	12,500	\$1,875,000				
(all inclusive)		_				
Sub-total			\$1,875,000			
Geological Studies		\$50,000				
Sub-total		\$50,000	\$50,000			
Sub-total			<b>\$30,000</b>			
Engineering Studies (Scoping	g Study)					
Update Resource Model	5 5,	\$50,000				
Environmental and Social Impa	ct Baseline	\$300,000				
Studies						
Metallurgical Testing		\$150,000				
Mineralogy Studies		\$20,000				
Geotechnical Studies		\$50,000				
Mine Engineering Design		\$100,000				
Sub-total			\$670,000			
Total			\$2,595,000			
Contingency (10%)			\$259,500			
Total			\$2,854,500			

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# **APPENDIX A**

Langmuir W4 Project Land Tenure

BLACKSTOCK		Date	Claim Due Date	Status	Claim units	Area (Ha)	100% Percent Ownership
DEADINOTOON	4201285	2005-Nov-01	2010-Nov-01	Active	8	129	Golden Chalice
BLACKSTOCK	4201286	2005-Nov-01	2010-Nov-01	Active	16	259	Golden Chalice
BLACKSTOCK	4201287	2005-Nov-01	2010-Nov-01	Active	16	259	Golden Chalice
BLACKSTOCK	4201288	2005-Nov-01	2010-Nov-01	Active	16	259	Golden Chalice
BLACKSTOCK	4220195	2007-May-22	2011-May-22	Active	16	259	Golden Chalice
BLACKSTOCK	4220196	2007-May-22	2011-May-22	Active	16	259	Golden Chalice
CARMAN	4220198	2007-Jun-12	2011-Jun-12	Active	2	32	Golden Chalice
CARMAN	4220201	2007-May-22	2011-May-22	Active	11	178	Golden Chalice
CARMAN	4220204	2007-May-22	2011-May-22	Active	16	259	Golden Chalic
CARMAN	4220205	2007-May-22	2011-May-22	Active	16	259	Golden Chalic
CARMAN	4220206	2007-May-22	2011-May-22	Active	15	243	Golden Chalice
CARMAN	4220207	2007-May-22	2011-May-22	Active	12	194	Golden Chalice
CARMAN	4220208	2007-May-22	2011-May-22	Active	14	226	Golden Chalic
CARMAN	4220209	2007-May-22	2011-May-22	Active	12	194	Golden Chalic
CARMAN	4220211	2007-May-22	2011-May-22	Active	16	259	Golden Chalic
CARMAN	4220212	2007-May-22	2011-May-22	Active	16	259	Golden Chalic
CARMAN	4220213	2007-May-22	2011-May-22	Active	16	259	Golden Chalic
CARMAN	4220214	2007-May-22	2011-May-22	Active	16	259	Golden Chalic
CARMAN	4220215	2007-May-22	2011-May-22	Active	16	259	Golden Chalic
CARMAN	4220216	2007-May-22	2011-May-22	Active	16	259	Golden Chalic
ELDORADO	4201267	2006-Feb-15	2011-Feb-15	Active	16	259	Golden Chalic
ELDORADO	4201268	2006-Feb-15	2011-Feb-15	Active	16	259	Golden Chalic
ELDORADO	4201269	2006-Feb-15	2011-Feb-15	Active	16	259	Golden Chalic
ELDORADO	4201270	2006-Feb-15	2011-Feb-15	Active	6	97	Golden Chalic
ELDORADO	4201271	2006-Feb-15	2011-Feb-15	Active	15	243	Golden Chalic
ELDORADO	4201274	2006-Feb-15	2011-Feb-15	Active	16	259	Golden Chalic
ELDORADO	4201275	2005-Nov-01	2010-Nov-01	Active	16	259	Golden Chalic
FALLON	4201280	2005-Nov-01	2010-Nov-01	Active	4	65	Golden Chalic
LANGMUIR	3013180	2005-Jul-18	2011-Jul-18	Active	1	16	Golden Chalic
LANGMUIR	3013181	2005-Jul-18	2011-Jul-18	Active	1	16	Golden Chalic
LANGMUIR	3013181	2005-Jul-18	2011-Jul-18	Active	16	259	Golden Chalic
LANGMUIR	3013182	2005-Jul-18	2011-Jul-18	Active	16	259	Golden Chalic
LANGMUIR	3013183	2005-Jul-18	2011-Jul-18	Active	12	194	Golden Chalic
LANGMUIR	3013185	2005-Jul-18	2011-Jul-18	Active	16	259	Golden Chalic
LANGMUIR	3015576	2005-Jul-18	2011-Jul-18	Active	5	81	Golden Chalic
LANGMUIR	3013570	2003-501-18 2004-May-03	2011-50-10 2011-May-03	Active	4	65	Golden Chalic
	3017517	•	•			178	
LANGMUIR LANGMUIR		2004-May-03	2011-May-03	Active Active	11 13	210	Golden Chalic
	3018143	2005-Jul-18	2011-Jul-18				Golden Chalic
	4201276	2005-Nov-01	2010-Nov-01	Active	16 10	259 162	Golden Chalic
	4201277	2005-Nov-01	2010-Nov-01	Active	10	162	Golden Chalic
LANGMUIR LANGMUIR	4201278 4201279	2005-Nov-01 2005-Nov-01	2010-Nov-01 2010-Nov-01	Active Active	4 10	65 162	Golden Chalic Golden Chalic

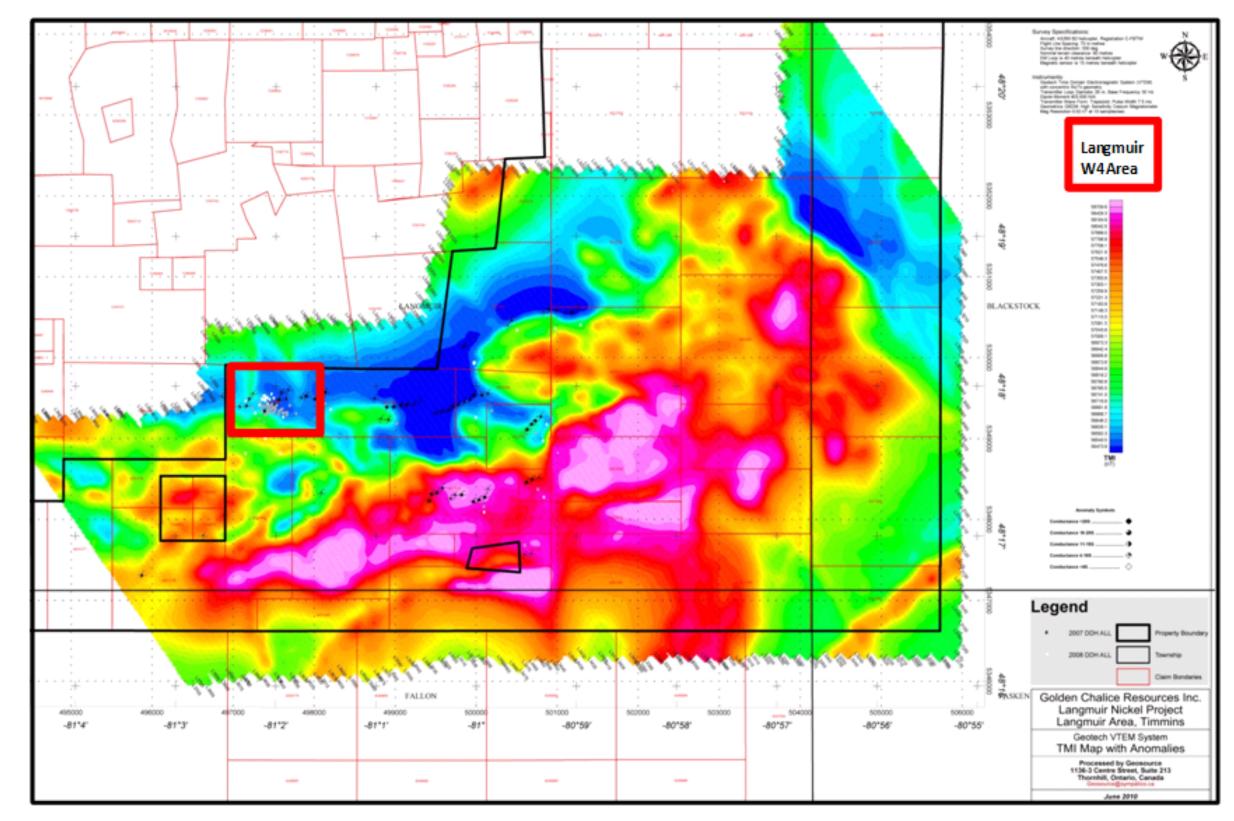
SRK Consulting
3CG021_000 – Golden Chalice Resources Inc.
Mineral Resource Evaluation Technical Report, Langmuir W4 Project, Ontario

Page 83

Тwp	Claim	Recording Date	Claim Due Date	Status	Claim units	Area (Ha)	100% Percent Ownership
LANGMUIR	4201281	2005-Nov-01	2010-Nov-01	Active	2	32	Golden Chalice
LANGMUIR	4201282	2005-Nov-01	2010-Nov-01	Active	10	162	Golden Chalice
LANGMUIR	4201283	2005-Nov-01	2010-Nov-01	Active	12	194	Golden Chalice
LANGMUIR	4201284	2005-Nov-01	2010-Nov-01	Active	12	194	Golden Chalice
LANGMUIR	4201289	2005-Nov-01	2010-Nov-01	Active	16	259	Golden Chalice
LANGMUIR	4201290	2005-Nov-01	2010-Nov-01	Active	4	65	Golden Chalice
LANGMUIR	4202744	2005-Jun-06	2011-Jun-06	Active	2	32	Golden Chalice
LANGMUIR	4202748	2005-Jul-18	2014-Jul-18	Active	11	178	Golden Chalice
LANGMUIR	4202814	2005-Jun-06	2011-Jun-06	Active	1	16	Golden Chalice
LANGMUIR	4202815	2005-Jun-06	2011-Jun-06	Active	4	65	Golden Chalice
LANGMUIR	4202816	2005-Jun-06	2011-Jun-06	Active	8	129	Golden Chalice
LANGMUIR	4203498	2005-Jul-18	2016-Jul-18	Active	8	129	Golden Chalice
LANGMUIR	4203563	2005-Feb-08	2011-Feb-08	Active	10	162	Golden Chalice
LANGMUIR	4203564	2005-Feb-08	2011-Feb-08	Active	15	243	Golden Chalice
LANGMUIR	4203567	2005-Feb-08	2011-Feb-08	Active	16	259	Golden Chalice
LANGMUIR	4203568	2005-Feb-08	2011-Feb-08	Active	8	129	Golden Chalice
LANGMUIR	4203569	2005-Feb-08	2011-Feb-08	Active	8	129	Golden Chalice
LANGMUIR	4203570	2005-Feb-08	2011-Feb-08	Active	1	16	Golden Chalice
LANGMUIR	4203571	2005-Feb-08	2011-Feb-08	Active	16	259	Golden Chalice
LANGMUIR	4207038	2005-Jul-18	2011-Jul-18	Active	4	65	Golden Chalice
LANGMUIR	4220197	2007-May-22	2011-May-22	Active	3	49	Golden Chalice
LANGMUIR	4220210	2007-May-22	2011-May-22	Active	12	194	Golden Chalice
THOMAS	4220191	2007-May-22	2011-May-22	Active	16	259	Golden Chalice
THOMAS	4220192	2007-May-22	2011-May-22	Active	16	259	Golden Chalice
THOMAS	4220193	2007-May-22	2011-May-22	Active	16	259	Golden Chalice
THOMAS	4220194	2007-May-22	2011-May-22	Active	16	259	Golden Chalice
THOMAS	4220219	2007-May-22	2011-May-22	Active	16	259	Golden Chalice
THOMAS	4220220	2007-May-22	2011-May-22	Active	16	259	Golden Chalice
CODY	4220202	2007-May-22	2011-May-22	Active	8	129	Golden Chalice
CODY	4220203	2007-May-22	2011-May-22	Active	16	259	Golden Chalice
CODY	4220217	2007-May-22	2011-May-22	Active	16	259	Golden Chalice
MACKLEM	4220218	2007-May-22	2011-May-22	Active	15	243	Golden Chalice
				TOTAL	856	13,842	

# **APPENDIX B**

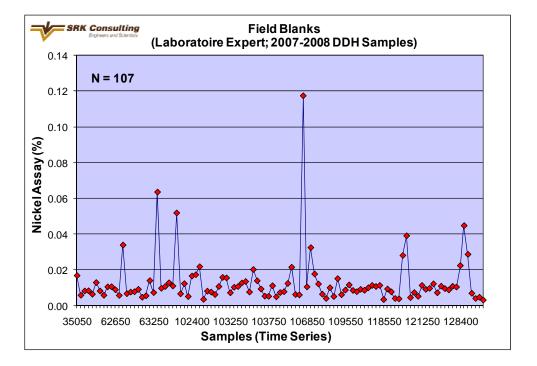
### Total Magnetic Intensity Image of the Langmuir Property



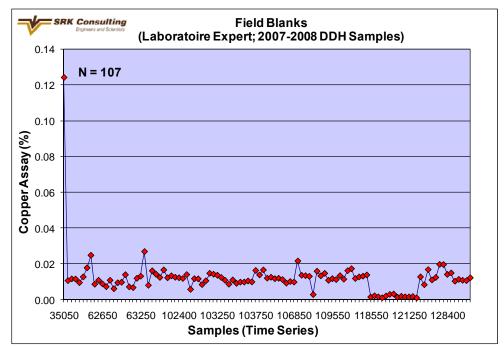
The Langmuir W4 Project Area shown on a Total Magnetic Intensity Image of the central Langmuir Property

# **APPENDIX C**

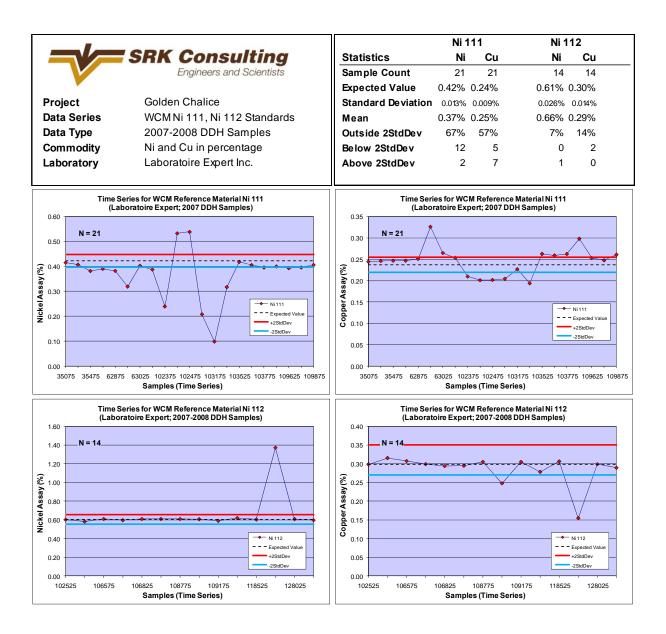
#### Analytical Quality Control Assay Results

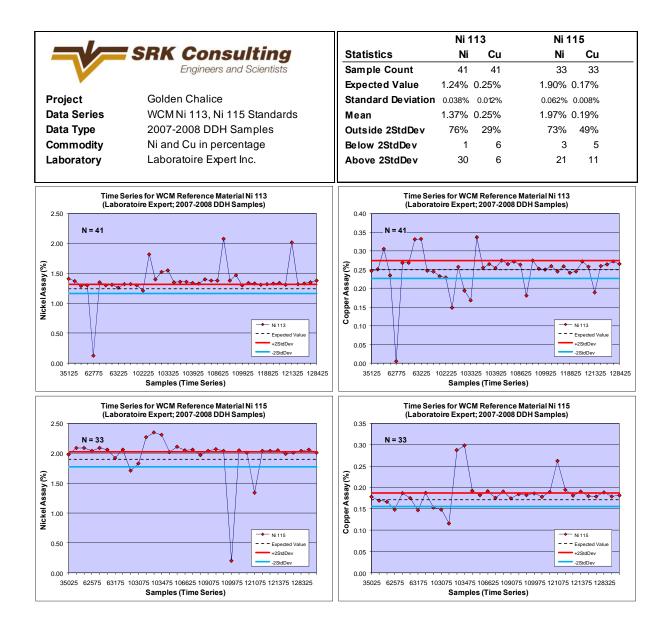


Assay Results for Field Blank Samples assayed by Laboratoire Expert Inc.

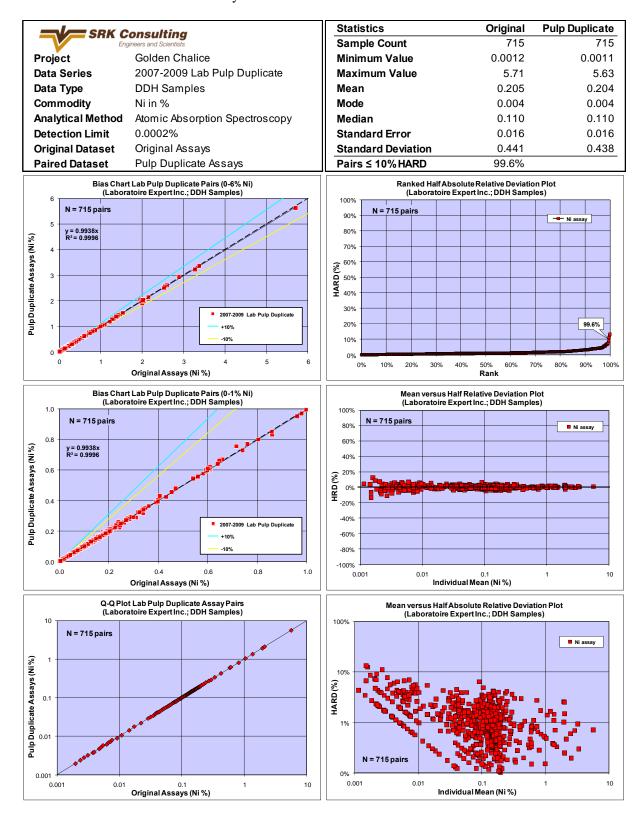


Assay Results for Certified Control Samples assayed by Laboratoire Expert Inc.



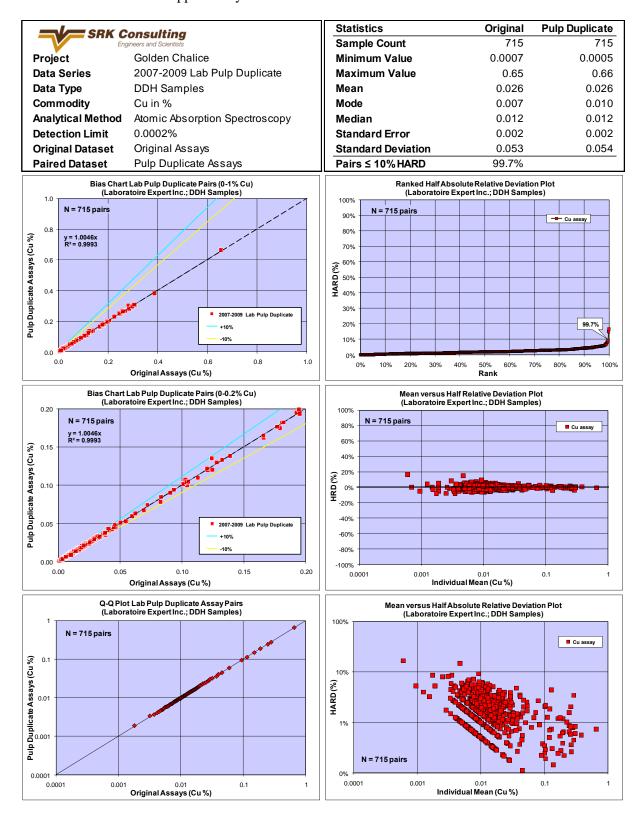


Bias Charts and Precision Plots for Internal Pulp duplicates assayed by Laboratoire Expert Inc. Nickel Assays



Page 91

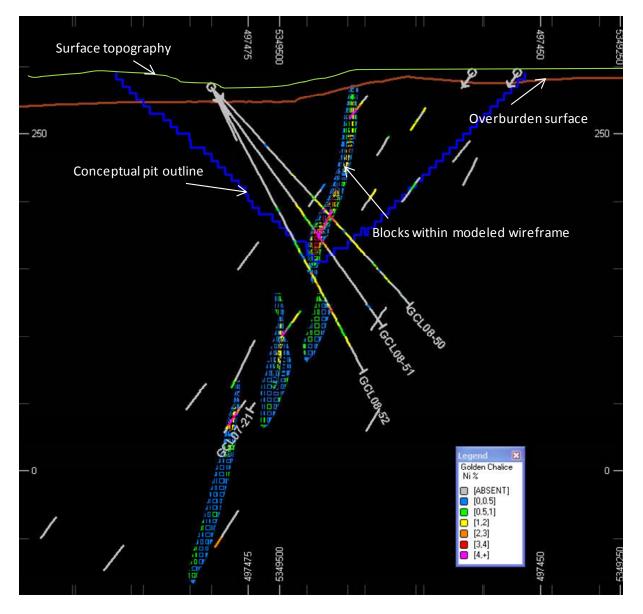
Bias Charts and Precision Plots for Internal Pulp duplicates assayed by Laboratoire Expert Inc. Copper Assays



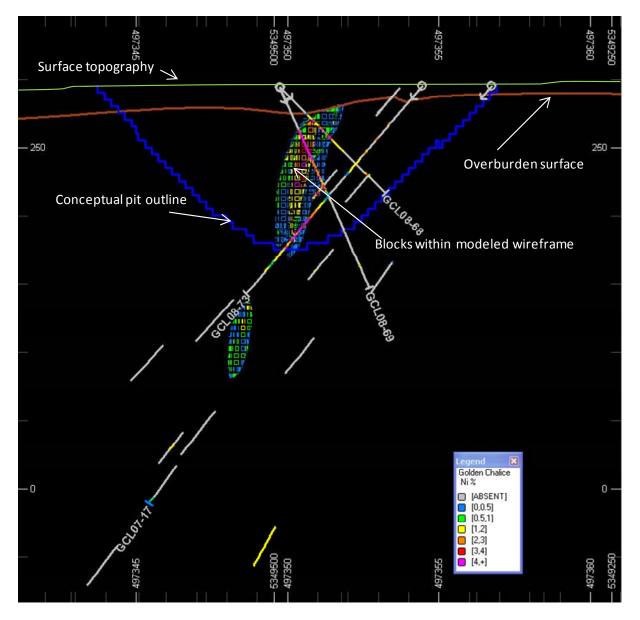
## **APPENDIX D**

**Block Model Cross Sections** 

Langmuir W4 section with centre point 497470E and 5349480N along azimuth 007 degrees comparing drilling data with resource blocks within modeled mineralized wireframes.



Langmuir W4 section with centre point 497350E and 5349480N along azimuth 357 degrees comparing drilling data with resource blocks within modeled mineralized wireframes.



## **APPENDIX E**

#### Quantile-Quantile Plots Comparing Domainal Block Grades and Informing Composite Data

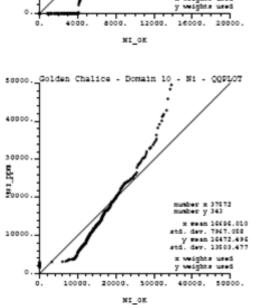
20000.

٠ 16000 12000 udd In accord 144049 491 ean 4540, 924 dev. 2721.257 mean 3642.364 dev. 5957.051 4000. x weights used y weights used ٥ 12000. 10000. 20000. 4000. 8000. NC\_OK 20000. Golden Chalice - Domain 05 - Ni - QQPLOT 16000 12800 udd in acco sb er x 80350 sb er y 314 man \$700.944 der. 3320.448 mean 4203.105 der. 5960.220 4000. x weights used y weights used ٥. 20000 12000. 16000. 4000. 8000. 0 NI OK Golden Chalice - Domain 10 - COPLOT 81

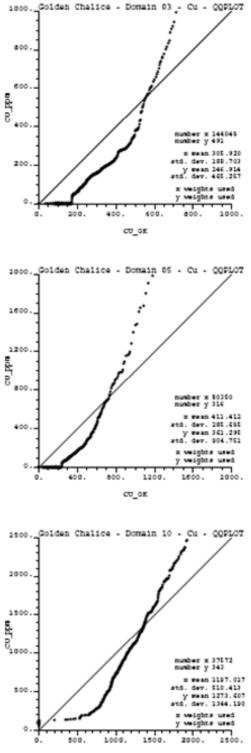
Golden Chalice - Domain 03

Domainal quantile-quantile plots for nickel comparing resource block and the informing capped composite data for each domain at Langmuir W4.

- N1 - QQPLOT



Domainal quantile-quantile plots for copper comparing resource block and the informing capped composite data for each domain at Langmuir W4.



#### CERTIFICATE AND CONSENT To accompany the technical report entitled: Mineral Resource Evaluation, Langmuir W4 Project, Ontario, Canada, dated June 28, 2010.

I, Glen Cole, residing at 15 Langmaid Court, Whitby, Ontario do hereby certify that:

- 1) I am a Principal Resource Geologist with the firm of SRK Consulting (Canada) Inc. (SRK) with an office at Suite 2100, 25 Adelaide Street East, Toronto, Ontario, Canada;
- 2) I am a graduate of the University of Cape Town in South Africa with a B.Sc (Hons) in Geology in 1983; I obtained an M.Sc (Geology) from the University of Johannesburg in South Africa in 1995 and an M.Eng in Mineral Economics from the University of the Witwatersrand in South Africa in 1999. I have practiced my profession continuously since 1986. Since 2006, I have estimated and audited mineral resources for a variety of early and advanced base and precious metals projects in Africa, Canada, Chile and Mexico. Between 1989 and 2005 I have worked for Goldfields Ltd at several underground and open pit mining operations in Africa and held positions of Mineral Resources Manager, Chief Mine Geologist and Chief Evaluation Geologist, with the responsibility for estimation of mineral resources and mineral reserves for development projects and operating mines. Between 1986 and 1989 I worked as a staff geologist on various Anglo American mines;
- 3) I am a Professional Geoscientist registered with the Association of Professional Geoscientists of the Province of Ontario (APGO#1416) and am also registered as a Professional Natural Scientist with the South African Council for Scientific Professions (Reg#400070/02);
- 4) I have personally inspected the subject property and surrounding areas on 18-19 March 2010;
- 5) I have read the definition of "qualified person" set out in National Instrument 43-101 and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of National Instrument 43-101 and this technical report has been prepared in compliance with National Instrument 43-101 and Form 43-101F1;
- 6) I, as a qualified person, am independent of the issuer as defined in Section 1.4 of National Instrument 43-101;
- 7) I am the principal author of this technical report, having compiled all the sections of this technical report, except Sections 3 to 6 and Sections 8 to 11 and Section 14 that was co-authored with Kevin Montgomery, P.Geo and Section 16 that was co-authored with Sebastien Bernier, P.Geo. I accept professional responsibility for all sections of this technical report;
- 8) SRK Consulting (Canada) Inc. was retained by Golden Chalice Resources Inc. to prepare a technical report for the Langmuir W4 Project in accordance with National Instrument 43-101 and Form 43-101F1 guidelines. The preceding report is based on a site visit, a review of project files and discussions with Golden Chalice Resources Inc. personnel;
- 9) That, as of the date of this certificate, to the best of my knowledge, information and belief, this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading;
- 10) I consent to the filing of the technical report with any stock exchange and other regulatory authority and any publication for regulatory purposes, including electronic publication in the public company files on their websites accessible to the public of extracts from the technical report; and
- 11) I confirm that I have read the news release dated May 19, 2010 in which the findings of the technical report have been disclosed publically and have no reason to believe that there are any misrepresentations in the information derived from the report or that the press release dated May 19, 2010 contains any misrepresentations of the information contained in the report.

Toronto, Canada June 28, 2010 Glen Cole, P.Geo. Principal Resource Geologist

#### **CERTIFICATE AND CONSENT**

#### To accompany the technical report entitled: Mineral Resource Evaluation, Langmuir W4 Project, Ontario, Canada, dated June 28, 2010.

I, Sébastien Bernier, residing at 1496 Horseshoe Lake Road, Sudbury, Ontario do hereby certify that:

- 1) I am a Senior Resource Geologist with the firm of SRK Consulting (Canada) Inc. with an office at 1-A Serpentine St., P.O. Box 686, Copper Cliff, Ontario, Canada;
- 2) I am a graduate of the University of Ottawa in 2001 with B.Sc. (Honours) Geology and I obtained M.Sc. Geology from Laurentian University in 2003. I have practiced my profession continuously since 2002. I worked in exploration and commercial production of base and precious metals mainly in Canada. I have been focussing my career on geostatistical studies, geological modelling and resource modelling of base and precious metals since 2004;
- 3) I am a Professional Geoscientist registered with the Order des Géologues du Québec (OGQ#1034);
- 4) I have not personally visited the project area;
- 5) I have read the definition of "qualified person" set out in National Instrument 43-101 and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of National Instrument 43-101 and this technical report has been prepared in compliance with National Instrument 43-101 and Form 43-101F1;
- 6) I, as a qualified person, I am independent of the issuer as defined in Section 1.4 of National Instrument 43-101;
- 7) I co-authored Section 16 of this technical report. I accept professional responsibility for Section 16 of this technical report;
- 8) SRK Consulting (Canada) Inc. was retained by Golden Chalice Resources Inc. to prepare a technical report for the Langmuir W4 Project in accordance with National Instrument 43-101 and Form 43-101F1 guidelines. The preceding report is based on a site visit, a review of project files and discussions with Golden Chalice Resources Inc. personnel;
- 9) That, as of the date of this certificate, to the best of my knowledge, information and belief, this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading;
- 10) I consent to the filing of the technical report with any stock exchange and other regulatory authority and any publication for regulatory purposes, including electronic publication in the public company files on their websites accessible to the public of extracts from the technical report; and
- 11) I confirm that I have read the news release dated May 19, 2010 in which the findings of the technical report have been disclosed publically and have no reason to believe that there are any misrepresentations in the information derived from the report or that the press release dated May 19, 2010 contains any misrepresentations of the information contained in the report.

Toronto, Canada June 28, 2010

Cernie

Sébastien Bernier, P.Geo Senior Resource Geologist

#### **CERTIFICATE AND CONSENT**

#### To accompany the technical report entitled: Mineral Resource Evaluation, Langmuir W4 Project, Ontario, Canada, dated June 28, 2010.

I, Kevin Montgomery, residing at 1190 Lozanne Crescent, Timmins, Ontario do hereby certify that:

- 1) I am an independent Professional Consulting Geoscientist with an office at 1190 Lozanne Crescent, Timmins, Ontario, Canada P4P 1E8.
- 2) I hold a B.Sc. Honours degree in Geological Sciences (1984) from Queen's University, Kingston, Ontario and a M.Sc. (App.) degree in Mineral Exploration (1987) from McGill University, Montreal, Quebec. I have practiced my profession continuously from 1993 as a consulting geologist for a number of major and junior mining companies and from 1984 to 1992 as a geologist with Gold Fields Canadian Mining Limited. I have worked in mining exploration continuously over the last twenty six years, predominantly in the Abitibi area. My nickel exploration experience in the Abitibi ranges from conceptual grassroots exploration through to detailed drilling on more advanced projects,
- 3) I am a member in good standing of the Association of Professional Geoscientists of Ontario, Membership # 0659;
- 4) I have personally visited the Langmuir Property on various occasions and supervised the Langmuir Property exploration work for Golden Chalice Resources Inc. since February 2007;
- 5) I have read the definition of "qualified person" set out in National Instrument 43-101 and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of National Instrument 43-101 and this technical report has been prepared in compliance with National Instrument 43-101 and Form 43-101F1;
- 6) I, as a qualified person, I am independent of the issuer as defined in Section 1.4 of National Instrument 43-101;
- 7) I contributed to the compilation of this report and co-authored Sections 3 to 6 and 8 to 11 of this technical report;
- That, as of the date of this certificate, to the best of my knowledge, information and belief, this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading;
- 9) I consent to the filing of the technical report with any stock exchange and other regulatory authority and any publication for regulatory purposes, including electronic publication in the public company files on their websites accessible to the public of extracts from the technical report; and
- 10) I confirm that I have read the news release dated May 19, 2010 in which the findings of the technical report have been disclosed publically and have no reason to believe that there are any misrepresentations in the information derived from the report or that the press release dated May 19, 2010 contains any misrepresentations of the information contained in the report.

E Kenin Montgomez

Kevin Montgomery, P.Geo. Senior Consulting Geologist

Timmins, Canada June 28, 2010

#### Signature Page

## Mineral Resource Evaluation Langmuir W4 Project, Ontario, Canada

### **Golden Chalice Resources Inc.**

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Effective date:June 28, 2010Signature date:June 28, 2010

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Toronto, June 28, 2010

To: Securities Regulatory Authorities B. C. Securities Commission (BCSC) Alberta Securities Commission (ABC) Ontario Securities Commission (OSC) L'Autorité des marchés financiers (AMF) Toronto Stock Exchange (TSX)

#### **CONSENT of AUTHOR**

I, Glen Cole, do hereby consent to the public filing of the technical report entitled "Mineral Resource Evaluation Langmuir W4 Project, Ontario, Canada," (the "Technical Report") and dated June 28, 2010 and any extracts from or a summary of the Technical Report under the National Instrument 43-101 disclosure of Golden Chalice Resources Inc. and to the filing of the Technical Report with any securities regulatory authorities.

I further consent to the company filing the report on SEDAR and consent to press releases made by the company with my prior approval. In particular, I have read and approved the press release of Golden Chalice Resources Inc dated May 19, 2010 (the "Disclosure") in which the findings of the Technical Report are disclosed.

I also confirm that I have read the Disclosure and that it fairly and accurately represents the information in the Technical Report that supports the Disclosure.

Dated this 28th day of June 2010.

Glen Cole, P.Geo Principal Resource Geologist

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#### **CONSENT of AUTHOR**

I, Sebastien Bernier, do hereby consent to the public filing of the technical report entitled "Mineral Resource Evaluation Langmuir W4 Project, Ontario, Canada," (the "Technical Report") and dated June 28, 2010 and any extracts from or a summary of the Technical Report under the National Instrument 43-101 disclosure of Golden Chalice Resources Inc. and to the filing of the Technical Report with any securities regulatory authorities.

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Sebastien Bernier, P.Geo Principal Resource Geologist

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#### **CONSENT of AUTHOR**

I, Kevin Montgomery, do hereby consent to the public filing of the technical report entitled "Mineral Resource Evaluation Langmuir W4 Project, Ontario, Canada," (the "Technical Report") and dated June 28, 2010 and any extracts from or a summary of the Technical Report under the National Instrument 43-101 disclosure of Golden Chalice Resources Inc. and to the filing of the Technical Report with any securities regulatory authorities.

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