# NI43-101 TECHNICAL REPORT

# A RESOURCE ESTIMATION

## OF THE

# THE DAC GOLD DEPOSIT

# **DESPINASSY TWP., VAL D'OR QUEBEC**

# PREPARED FOR ALTO VENTURES LTD.

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### **1 EXECUTIVE SUMMARY**

#### INTRODUCTION

At the request of Alto Ventures Ltd. (Alto), W. A. Hubacheck Consultants Ltd., now operating as Hubacheck Consulting Geologists. (HCG) has estimated the Mineral Resources of the Despinassy Gold Project situated 75 km. northeast of Amos, Quebec. This technical report was written by Peter C. Hubacheck, P. Geo. (No.1059) in accordance with the requirements of National Instrument 43-101 (NI 43-101), Companion Policy 43-101CP, and Form 43-101F1 of the Canadian Securities Administrators (CSA).

#### PROPERTY LOCATION AND CLAIMS STATUS

The Despinassy claim block is situated in the south-central portion of Despinassy Township and at the corner of four NTS map sheets 32C/11, 32C/12, 32C/13 and 32C/14. The approximate coordinates for the center of the property are longitude 77° 28' and latitude 48° 44' or UTM coordinates 319000E and 5401000N, in Zone 18, NAD 27. The property consists of 113 contiguous claims (surveyed 40 hectare lots), covering an area of approximately 4,520 hectares. The project is a joint venture between Alto Ventures Ltd. and Commander Resources Ltd., which hold respective interests of 70% and 30%; Alto Ventures being the operator of the project. The property is made up of public and private lands.

#### AGREEMENTS SUMMARY

On September 7<sup>th</sup>, 2006, ALTO filed a "Material Change Report" announcing that the firm has completed the purchase of Cameco's participating interest in the Despinassy Gold Project located near Val d'Or Quebec. Alto now owns 70% of the Despinassy Project with joint venture partner Commander Resources Ltd. owning the remaining 30% interest. The completion of the purchase was amended from an original purchase price of

\$700,000 in cash and/or shares over 5 years (2004 Purchase and Sale Agreement) to \$350,000 by making a one-time final cash payment of \$150,000 on August 31, 2006. The initial instalments totalling \$200,000 in cash and shares had been paid prior to the amended agreement.

#### ENVIRONMENTAL AND PERMITTING STATUS

There are no environmental impacts affecting the Despinassy Property at this time.

#### **EXPLORATION HISTORY**

A total of 111 drill holes totalling 31,486 m of surface diamond drilling have been completed within the bounds of the study area. A majority of the holes (56%) were drilled between 1998 and 2001 in programs co-ordinated by Cameco. The remainder were drilled in later programs managed by Alto from 2005 to 2006.

#### **GEOLOGY AND MINERALIZATION**

Since 1998, exploration on the Despinassy Property has focused on a major deformation corridor defined by a pairing of gabbroic sills intruded by quartz-feldspar porphyritic dykes and sills. Economically significant gold intersections were obtained from base metal bearing quartz veins at the periphery of the porphyritic felsic dykes. Type 1 mineralization is characterized by veining in strongly deformed corridors traced by drilling in excess of 4 km's. The alteration horizons (envelopes) vary in width from 1 to 60 m are characterized by biotite-sericite-silica-sulphide alteration .Type 2 mineralization is characterized by younger quartz veins and veinlet stockwork, averaging 1m in thickness but may thicken to 10 m's. These veins cross-cut the Type 1 mineralization and the  $S_1$  foliation, however they are boudinaged and broadly folded along the  $S_2$  foliation.

# SAMPLE PREPARATION, ANALYSES, SECURITY AND PROTOCOLS

The procedures for historic sample preparation and assaying are described in several past reports compiled by Cameco employees (1998 to 2001) and independent consultants for Alto in 2005 to 2006. Historical procedures for sample preparation were fairly consistent. All of the drill core samples collected by Cameco/Alto were obtained from NQ core that was sawn with a diamond saw. Routine assaying was often conducted on final sub-samples that weighed one assay ton and selective metallics assaying was carried out. Routine assaying was typically conducted with sub-samples weighing 30 g/t and metallics was used for most samples containing visible gold. The reject of samples with gold assays equal or above 2.0g/t were systematically re-assayed using FA-AA of a 30g split. All samples with free gold (observed during core logging), were re-analysed using metallic screen preparation method with FA-AA (generally 250g cut). Final sample preparation and assaying was conducted at one laboratory under separate managements: with Chimitec Bondar Clegg of Val d'Or(1998 to 2001) and ALS-Chemex, Chimitec's Val d'Or laboratory (2005 to 2006). This lab was and is currently an ISO 9002 certified lab. HCG concludes that the assays supporting the DAC Deposit Mineral Resource estimate are based on sample preparation and analytical protocols that meet standard industry practice and are reasonable and acceptable. The use of metallics should continue to be used on samples with VG and on samples where VG is suspected due to strong mineralization and alteration. HCG recommends that the initial standard fire assay employ a 50 gram sub-sample taken from a 250 gram split from a sample which has been crushed and pulverized to -150 mesh. HCG recommends a 6 hole wedging program as an integral component of a Phase 3 drilling program outlined in section 22. The wedging program is designed to twin 6 key intercepts re-coring  $\sim 60$  m of mineralized stratigraphy encapsulating Zones 2A to 3A. Pulp metallic assaying is preferred and should take precedence over standard fire assaying to give greater confidence in determining representative grades to composite intervals used in the resource estimation process.

#### DATABASE VERIFICATION

HCG carried out a database verification program on the Alto diamond drill hole data related to the DAC Deposit resource estimate. HCG did not verify any of the Alto information related to other zones on the property. HCG found no significant errors. Hard copy assay certificates are available at Alto's Sudbury field office for the surface diamond drill holes. HCG checked 6,139 diamond drilling assays with the hard copy assay certificates, representing the DAC Deposit area diamond drilling assays and found only a few errors. These errors were mostly related to not including replicate pulp assays and some were data entry typographic errors. HCG and Kirkham Geosystems also checked some of the header and survey records. Kirkham Geosystems entered the corrected values into Mintec MineSight<sup>TM</sup> software. It is HCG's opinion that the DAC Deposit database is valid and acceptable for supporting resource estimation work.

#### MINERAL RESOURCE ESTIMATION AND METHODOLOGY

The Despinassy Deposit resource estimate is supported by 30 drill holes arrayed on a grid layout on 11 drill fence sections from 317280E to 317580E, containing 2,274 assays. The geological interpretation is based on 11 north-south cross-sections spaced at 25 metres apart from 317280E to 317580E and one 50m spaced section (317,280E to 317,580E) covering a strike length of 300 meters along the mineralized trend. Level plans spaced at 25 metres apart were used to check the geological interpretation. Computer drafted cross-sections showing mineral zone outlines were provided by ALTO. The composite control table has 102 mineralized intersections that have zone codes related to the 2A, 2B, 3A, 4A and 5A zones and 2C, 3B and 5B sub-zones.

Kirkham Geosystems of Vancouver, B.C. was retained to perform block modelling geostatistics on the DAC DEPOSIT assay database. Based on this exercise, a comprehensive block model was built factoring in the inverse distance method supported by grade contouring on cross-sections and inclined longitudinal sections.

#### VERTICAL CROSS-SECTION METHOD

HCG used gold mineralization outlines derived from composite assay intervals as a visual guide to draw resource lens outlines for each zone around intersections averaging greater than approximately 3 g/t Au. Some lower grade intersections ranging to 2 g/t Au were included to preserve zone continuity. Geologic structure and stratigraphic contacts are the key guides in joining the extremities of the intersections between holes and from section to section. Extrapolation distances between holes on the vertical sections varied depending on the gold based on the assumption that higher gold values are generally associated with stronger structures that have longer ranges of continuity. The drill hole density and spacing layout of holes on each section plane employed by CAMECO/ALTO is 50m. A systematic section spacing of 25m was also employed. Hence, area of mineral outlines is determined by half the distance between holes, averaging 25m on each side. The half distance rule is applied as well between sections with 12.5m width of section yielding a typical block width of 25m. The average block length is 46m based on 102 drill hole composite intervals used for the resource estimation. Mineral outlines involving isolated drill holes or off-section holes were trimmed at 25m.

The area of the mineral outline is the product of the block length and the "true thickness" of the drill hole intercept, centering the resource block. The block volume is the product of the block area times the block width. 25m block lengths were used to help maintain approximately a 25 m extrapolation distance in open areas for lenses classified as Inferred. A 50m section spacing exists between section 317,530E and 317,580E and block widths were weighted at 50m due to sufficient drill hole density establishing geologic continuity. A 50m section spacing also exists between section 317,280E and 317,330E with block widths set at 25m due to low density drilling. A weighting factor was also applied to block lengths involving assay composites >10 g/t. A block length of 25m was generally applied where high grade intercepts were isolated and not supported by neighbouring drill holes on the section plane as well as parallel sections on each side. If geologic continuity is established based on structure, alteration type, intensity and grade, then exceptions were made allowing block lengths up to 42.5m. The typical

extrapolation dimensions of a resource block used to outline the "Inferred" zones was approximately 50m x 25m x 2m.

True thickness values were calculated graphically from the cross-sections taking into account drill hole trajectories, structural dip of mineral outline and core angle to bedding measurements. Average factors of .8 and .9 were applied to the drill hole composite control core length intervals. The average true thickness is 1.8m based on 102 drill hole composite intervals used for the resource estimation. The tonnage for each gold zone was estimated by summing the product of the block volumes and 2.76 t/m<sup>3</sup> tonnage factor. The average grade for each gold zone was estimated by weighting the product of intersection block tonnages and block grades.

#### ID BLOCK MODEL GEOSTATISTICAL METHOD

The methodology used for geostatistical modelling, graphical and digital presentations for this report was contributed by Garth Kirkham. The following outlines the process and parameters utilized in the Despinassy block modelling resource estimation to support the "Vertical Cross-section Method".

Composite zones with a minimum width of 1.2 meters were utilized. Zone tops and bottoms triangulated and solids created. Zone solids were created for 1a, 1b, 2a, 2b, 2c, 3a, 3b, 4a, 4b, 5a, and 5b. However, there was only one composite top and bottom point for 3c and 5c therefore zone solids were not created for these zones. Composites created at 1 meter intervals (to conform with HCG selected composite thicknesses-refer to appendix 1) within the solids, tails retained. Block modeling entailed using inverse distance to the 2<sup>nd</sup> and 3<sup>rd</sup> power, with search ellipsoid distance being 50m X 50m X 10m at an azimuth of 0 degrees and a dip of 60 degrees down from horizontal. A minimum of 2 composites and maximum of 16 composites were allowed for each block and at maximum 2 composites were allowed from an individual drill hole.

#### MINERAL RESOURCE ESTIMATE

HCG has employed the "vertical cross-section method" supported by geostatistical 3D block modelling to estimate the gold resources within the DAC Deposit. Detailed drilling on the Despinassy Project between sections 317,405E and 317,505E shows good continuity and is of sufficient density on 5 sections that the gold resource outlined in this region are classified as "Indicated". At the 3.0 g/t Au cut-off grade, HCG estimates that the Indicated Mineral Resources of the DAC Deposit total 166,863 tonnes at an average grade of 6.88 g/t Au and contain 36,892 ounces of gold, cutting all high assays to 75 g/t Au. HCG estimates that the Inferred Mineral Resources total 444,753 tonnes at an average cut grade of 4.46 g/t Au and contain 63,839 ounces of gold.

# DAC DEPOSIT VERTICAL CROSS-SECTION RESOURCE ESTIMATION SUMMARY

		No. of		CUT GRADE	
DAC		Resource		(Aucapped	Contained
DEPOSIT		Blocks	TONNAGE	at 75 g/t)	Gold'
Classification	Zone		Tonnes	(g/t)	(ozs Au)
Indicated	2A	10	59,484	6.97	13,328
Indicated	2B	17	107,379	6.83	23,564
Total					
Indicated		27	166,863	6.88	36,892
Inferred	2A	18	142,782	3.56	16,350
Inferred	2B	5	31,666	4.21	4,288
Inferred	2C	4	15,823	5.81	2,956
Inferred	ЗA	9	48,076	3.30	5,098
Inferred	3B	5	24,390	5.04	3,955
Inferred	4A	19	103,655	4.62	15,398
Inferred	5A	13	69,564	6.73	15,056
Inferred	5B	3	8,798	2.61	738
Total Inferred		76	444,753	4.46	63,839

Notes: DAC Deposit: Resource Estimation Parameters

- Indicated Resource: Sufficient continuity in geologic structure and consistent grade outlines for Zones 2A & 2B established from Section 317,405E to 317,505E using cut-off grade of 3g/t Au; Section spacing is 25m; Average True thickness is 2.1m; Weighted Average block length = 37m; Tonnage Factor applied = 2.76 g/m<sup>3</sup>
- Inferred Resource: Sufficient continuity in geologic vein structures to correlate main Zones 2A, 2B, 3A, 4A & 5A from Section 317,280E to 317,580E using cut-off grade of 2g/t Au, Erratic gold distribution in weaker vein structures combined with lower drill hole density affects sub-zones 2C,

3B and 5B; Section spacing is 25m and 50m; Average True thickness is 1.7m; Weighted Average block length = 42m; Tonnage Factor =  $2.76 \text{ g/m}^3$ 

3. Assay composite intervals adjusted by factor of .8 and .9 to determine true thickness. A minimum true thickness cut-off of 1.2m to control composites.

#### INTERPRETATION AND CONCLUSIONS

The modelling of the Despinassy Gold resources using the vertical cross-section and inverse distance geostatistical method has been able to characterize the distribution of gold mineralization of the Despinassy Property. The block model which is constrained by the geologically selected assay composites, has mapped the combined influence of 2 major alteration envelopes hosting five plane parallel shear vein systems intimately associated with QFP intrusions. Preliminary trend analysis suggests the true direction of mineralization as shown by the variography and as evidenced by visual inspection of grade contours derived from the grade model created by the block modelling process, as shown in further sections, is 297 degrees azimuth and -58 degrees.

The drilling density is sufficient to determine the lens geometry of the individual zones. The block model grade contouring views suggest that a high strain deformation zone exists between section lines 317280E and 317580E exhibiting "Z" type shear kinematics. Transposed shear fabrics resulting in attenuation of vein structures in a major "Z fold hinge" with maximum thickening and dilation occurring from section 317405E to 317505E. In this region, 2 parallel gold zones 2A and 2B exhibit good continuity in structural style and alteration intensity resulting in consistency in gold grade. The Zone 2A and 2b Au composite control values suggest that the "along strike" (Az 297° rake direction) range of continuity is ~12.5 m to 25 m based on the closer spaced 25m x 25 m drilling pattern in this region. These lenses appear on inclined longitudinal sections to have a strike length ranging from 100m to 150m with moderate to steep rakes ranging from  $45^{\circ}$  to  $58^{\circ}$ . The ranges of continuity in the plunge directions of the Zone 2B/2C lenses appear to be two times ranging up to 300 meters plunging along strike to the west.

#### EXPLORATION POTENTIAL

There is good potential to increase the preliminary Despinassy Deposit Mineral Resource and to upgrade a substantial portion of the "Inferred" gold mineral resources outlined to Indicated resource categories. In HCG's opinion, the Despinassy Gold Project has good exploration potential and warrants further work. The potential to increase the Despinassy Deposit gold resource exists in the region between section 317270E and 317380E by targeting the two westerly plunging trends illustrated on the inclined longitudinal views. Zones 4A and 5B are also highly prospective and may be controlled by features not recognized yet. Deeper drilling is recommended to target these zones and determine if the trends outlined by the block model hold up.

#### RECOMMENDATIONS

The author recommends the following work:

1. Continue drilling the DAC Deposit focusing on extensions of zones 2A and 2B and adjacent zones to increase the DAC Deposit mineral resource and upgrade extensions of zone 2A and 2B from inferred to indicated resource category. Delineation drilling includes 8 shallow tier, 10 mid tier and 4 deep tier holes totalling 4,200 m. Twin 6 holes by re-entering cased holes, set grout plug and wedge above Zone A , ream past wedge and re-core 60m in each hole to include DAC Deposit mineralized zones from Zone 2A to 3A. Perform pulp metallic gravimetric analysis on all composite intervals to increase confidence level of economic gold grade ranges. **Estimated Cost: \$851,000** 

2. Update the DAC Deposit 3D Block Model to support a preliminary underground exploration scoping study based on an underground narrow vein bulk sampling and test mining concept. Update the level plan interpretations at 25m level spacing. Determine minimum tonnage and grade guidelines for a ramp exploration and development scenario leading to a production start-up decision. Scoping Study should

also address geotechnical parameters such as overburden depths(reflection seismic survey) and drainage hydrology, RQD factors and environmental baseline studies. **Estimated Cost: \$ 50,000** 

3. Update the DAC Deposit Mineral Resource estimates after the next phase of drilling is completed.

- 4. Conduct drilling programs on the Darla Zone.
- 5. Integrate the master assay database with kinematic structural indicators, alteration type, alteration style, Mineralization type, % veining, % sulphides derived from drill logs for every assay included in the composite control intervals used in the resource estimation.
- Recommends that magnetic susceptibility measurements to be taken for major lithofacies with high priority given to characterizing the magnetic response of the paired gabbro marker beds.
- Recommends that Alto undertakes a geodetic survey to reference the 2001, 2005 and 2006 drill holes (DES00-52 to DES06-102) to the previous GPS control survey conducted in 2000.
- Recommends that the initial standard fire assay employ a 50 gram sub-sample taken from a 250 gram split from a sample which has been crushed and pulverized to -150 mesh.
- Recommends that Alto perform RQD measurements on all drill holes piercing Zones 2A, 2B, 3A, 4A at the -100m to -125m vertical elevations to support the scoping study mentioned in item 2 above.

# 2 INTRODUCTION AND TERMS OF REFERENCE

At the request of Alto Ventures Ltd. (Alto), W. A. Hubacheck Consultants Ltd., now operating as Hubacheck Consulting Geologists. (HCG) has estimated the Mineral Resources of the Despinassy Gold Project situated 75 km. northeast of Amos, Quebec. This technical report was written by Peter C. Hubacheck, P. Geo. (No.1059) in accordance with the requirements of National Instrument 43-101 (NI 43-101), Companion Policy 43-101CP, and Form 43-101F1 of the Canadian Securities Administrators (CSA).

Historical data, reports and opinions from past Cameco drilling was verified by Marian Koziol, P.Geo. (Ontario), Alto's Vice President of Exploration. Robert J. Tremblay, P.Geo. (Quebec), Consulting Geologist managed Alto's 2005 and 2006 drill programs and conducted a detailed examination of drill core from Cameco's past drilling which contributed to the geological interpretations that formed the basis of the HCG resource estimation. Twelve digitized geological cross-sections were provided by ALTO which provided the basis for verifying geological correlations of the gold mineral outlines employed in the cross-sectional block area estimation method.

In August, 2006, a field examination of the Despinassy Property was conducted by Peter Hubacheck investigating drilling sites, geotechnical survey control under the guidance of R. Tremblay, representing ALTO. An examination of selected drill cores and inspection of ALTO's drill core storage facility also took place in the city of Val D'Or, Quebec.

Kirkham Geosystems of Vancouver, B.C. was retained to perform block modelling geostatistics on the Despinassy assay database. Based on this exercise, a comprehensive block model was built factoring in the inverse distance methods supported by grade contouring on cross-sections and inclined longitudinal sections. The methodology used

for geostatistical modelling, graphical and digital presentations for this report generally support the vertical cross-section estimation method.

# **3 LIST OF ABREVIATIONS**

In this report, monetary units are Canadian dollars (C\$) unless specified in United States dollars (US\$). The metric system of measurements and units has been used unless otherwise specified. A table showing abbreviations used in this report is provided below.

#### TABLE 3-1 LIST OF ABREVIATIONS Alto Ventures Ltd. Despinassy Gold Project, Quebec

Abbreviation	Meaning
tonnes or t	metric tonnes
kg	Kilograms
grams	x (.0321508) = Troy .oz
Troy .oz	x(31.1034) = grams
g/t	grams per tonne, equivalent to ppm
	g/t x 0.029167 =Troy Oz. per Short Ton
ppm, ppb	parts per million, parts per billion
m	Metres
km	Kilometers
m <sup>3</sup>	cubic metres
ha	hectare (2.471 acres)

## **4 QUALIFICATIONS**

#### HUBACHECK CONSULTING GEOLOGISTS

The firm, Hubacheck Consulting Geologists (HCG), incorporated as W.A. Hubacheck Consultants Ltd., has participated on mineral and petroleum exploration programs on behalf of various concerns across Canada for over 30 years and has been actively exploring for gold, base metals, diamonds and natural gas primarily in Ontario, Quebec, Nunavut and Northeastern B.C.

From 1965 to 2000, W.A. Hubacheck, President, has managed an independent consulting practice, and from 1973 to 1994, has performed as chief mining consultant to Agnico-Eagle Mines Ltd (Agnico-Eagle). He played a significant role in the acquisition, evaluation and development of the Eagle, Telbel, Goldex, Vezza and Laronde properties. In June 1994, he was elected to the board of directors and appointed Vice-President of Agnico-Eagle, responsible for all exploration and development activities carried out by the Agnico-Eagle Group of Companies. From September 1996 to June 1998 he served as President and CEO of Agnico-Eagle and retired as a director in 2002.

From 1984 to 1999, Peter Hubacheck, Director of HCG, has been primarily involved with all phases of exploration project management for the Agnico-Eagle affiliated companies, notably Silver Century Explorations and Sudbury Contact Mines Ltd. He participated on Agnico's Board of Directors from 1996 to 1998 and with Contact Diamond Corp. from 2005 to the present. He has supervised the staffing of an exploration team collaborating with several key co-workers on a long term basis and took over management of the firm in February 2001.

HCG provides services in overall project planning and management to carry out specific tasks including reconnaissance prospecting, geological mapping, geochemical surveys, glacial till sampling, alluvium sampling, reverse circulation and diamond drilling supervision, data compilation, claim management and qualifying reports.

### **5 RELIANCE ON OTHER EXPERTS**

This report has been prepared by Hubacheck Consulting Geologists (HCG) for Alto Ventures Ltd. HCG has performed a site visit in August, 2006 and reviewed QA/QC procedures affecting the Despinassy geoscience database during September and October, 2006. The information, conclusions, and estimates contained herein are based on:

Information available to HCG at the time of preparation of this report,

Assumptions, conditions and qualifications as set forth in this report, and,

Data, reports, and opinions supplied by ALTO and other third party sources.

Under the provisions of NI 43-101, HCG would grant permission to ALTO to disclose comments from this report.

For the purposes of this report, HCG is responsible for the content and disclosures contained in sections 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21 and 22.

For the purposes of this report, Kirkham Geosystems is responsible for geostatistical modelling contributions as a check and validation of the polygonal resource estimation within sections 19, 21 and 22. In addition, Kirkham Geosystems assisted with the completion of sections 15 and 16.

### **6 PROPERTY DESCRIPTION AND LOCATION**

#### PROPERTY LOCATION

The property is located in the Despinassy Township, approximately 75 kilometres north- northeast of Val d'Or, Quebec, at the corner of four NTS sheets: 32C/11, 32C/12, 32C/13 and 32C/14 (Figure 6-1). From Val d'Or, it can be reached by travelling a total of 85 kilometres, via paved provincial highway 397 northward and then eastward to the village of Rochebaucourt; then on a gravelled portion northward and then eastward to the property. This road, along with a number of ATV trails, provides good access to the southern half of the property. The northern and western portions of the property are easily accessible by following the highway further northward to the village of Despinassy and turning westward onto the gravel road which separates ranges III and IV. A newly constructed all-season forestry road branches southwestward from this range road and provides good access to the area lying north of the DAC Zone. Construction of another forestry road is also planned southwest of the small lake which lies along road 397, as it turns southward to the village of Rochebaucourt.

#### PROPERTY DESCRIPTION

The Despinassy claim block is situated in the south-central portion of Despinassy Township and at the corner of four NTS map sheets 32C/11, 32C/12, 32C/13 and 32C/14. The approximate coordinates for the center of the property are longitude 77° 28' and latitude 48° 44' or UTM coordinates 319000E and 5401000N, in Zone 18, NAD 27. The property consists of 113 contiguous claims (surveyed 40 hectare lots), covering an area of approximately 4,520 hectares. Claim numbers are shown on Figure 6-2. The project is a joint venture between Alto Ventures Ltd. and Commander Resources Ltd., which hold respective interests of 70% and 30%; Alto Ventures being the operator of the project. The property is made up of public and private lands. The names and addresses of the land owners are available from the Municipalité Régionale de Comté (MRC) in Amos. The public lots are managed by the Quebec Ministry of Ressources Naturelles et Fauneis..



FIGURE 6-1 LOCATION MAP



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FIGURE 6-2 LAND OWNERSHIP MAP

#### AGREEMENTS SUMMARY

The original Despinassy Property (25 claim units) is encumbered by a 1% net smelter Return (NSR) royalty payable to Umex Inc. and an additional 1.5% NSR which is capped at \$500,000 payable also to Umex Inc.

The Rochebaucourt Property (30 claim units) is encumbered by a 3% NSR to Battle Mountain Canada Ltd. with the option to reduce the NSR by 1% to 2% by paying Battle Mountain \$1,000,000.

On September 30<sup>th</sup>, 2004, Cameco Corporation and Alto Ventures Ltd. entered into "The Despinassy Purchase and Sale Agreement" with the following understanding.

A. Cameco is the registered owner of an undivided seventy (70%) percent interest in 113 mining claims (Mineral Interest) listed in Schedule A, and an undivided one hundred (100%) in 13 Mining claims located in the Province of Quebec.

B. Cameco owns an undivided seventy (70%) percent Participating Interest in and under a joint venture known as the Despinassy Joint Venture and Commander Resources Ltd. (legal successor to Major General Resources Ltd. and hereinafter called "Commander") owns the remaining thirty (30%) percent participating interest in and under such venture (hereinafter called the "Despinassy Joint Venture").

C. Cameco and Mirador Management Co. entered into a letter agreement, dated March 24, 2004 and accepted by Cameco on March 3'1, 2004, whereby Cameco agreed to sell to Mirador Management Co. having agreed to purchase the Participating Interest, (Section E).

D. As permitted and anticipated by the March 24 Letter Agreement, Alto has been substituted instead of Mirador Management Co. as a party to this Agreement, which

substitution is evidenced by a letter effective the 14th day of April,. As such, Alto is interested in acquiring the Participating Interest and in so doing, has agreed to be bound by all of the obligations of Cameco pursuant to the Despinassy Joint Venture Agreement.

E. Cameco has agreed to sell and Alto has agreed to buy the Mineral Interest and Participating Interest with the purchase price of \$700,000 on the basis of annual cash instalments (~\$100,000) payable in cash or shares at ALTO's discretion.

On September 7<sup>th</sup>, 2006, ALTO filed a "Material Change Report" announcing that the firm has completed the purchase of Cameco's participating interest in the Despinassy Gold Project located near Val d'Or Quebec. Alto now owns 70% of the Despinassy Project with joint venture partner Commander Resources Ltd. owning the remaining 30% interest. The completion of the purchase was amended from an original purchase price of \$700,000 in cash and/or shares over 5 years (2004 Purchase and Sale Agreement) to \$350,000 by making a one-time final cash payment of \$150,000 on August 31, 2006. The initial instalments totalling \$200,000 in cash and shares had been paid prior to the amended agreement.

# ENVIRONMENTAL, PERMITTING STATUS AND CLOSURE PLAN

There are no environmental impacts affecting the Despinassy Property at this time.

# 7 ACCESSIBILITY, LOCAL RESOURCES, PHYSIOGRAPHY AND INFRASTRUCTURE

In terms of access to heavy drill equipment, the DAC Zone lies on private lots and in a wet and poorly drained terrain, best drilled during the winter months. On the other hand, the areas to the east and west of the DAC Zone remain accessible for summer drilling operations, as does the area to the north, where drill collars for future deep drilling on this zone would be located. This area is easily accessible via the newly constructed forestry road described above.

The property benefits from a number of hydroelectric power lines. A major line crosses the property southwestward just east of the DAC Zone and another line lies along provincial road # 397, only 800 metres to the south. This line veers northward along this road in the eastern part of the property. Another line lies along the range road separating ranges III and IV.

In the area of the DAC Zone and its east and western extensions, the terrain is flat, humid and poorly drained, with no known bedrock exposures. Vegetation consists of alternating alder-covered humid areas with sparse poplar and spruce growth and heavily wooded areas, with mature stands of poplar, spruce, and fir. Maximum relief rarely exceeds 5-10 metres and is mostly limited to creek valleys. Overburden mainly consists of a thick mantle of clay, which varies greatly in thickness throughout the property. Locally few 5-6 metre topographic highs (mounds or dunes) are composed of sandy till or sand. The overburden thickness averages 15 metres and thins northward to 10 metres. In the area drilled to the west, it ranges 6-12 metres, with one exception where it exceeded 30 m. In the area drilled to the east, it ranges 6-20 metres. Figure 7-1 shows typical topography at baseline origin looking north.

Finally, general and skilled labour is readily available from Val d'Or, Lebel-sur-Quévillon and Amos, whereas mining and exploration manpower, services and equipment is available in Val d'Or.

### **8 HISTORY**

#### **EXPLORATION HISTORY**

The area was mapped in 1934 by the Quebec Bureau of Mines (Map 313; Annual Report 1934, part C) and the same general area was mapped by the Geological Survey of Canada (GSC) in 1936 and 1937 (Maps 529A and 553A). The three maps were published at a scale of 1:63,360. The GSC also published an Airborne Mag in 1948 at a scale of 1:63,360 (Map 94G). The Quebec Government flew two Airborne Input MK VI surveys called Bartouille Area in 1974 (DP-237) and Comtois-Cavelier Area in 1981 (DP-819). The surveys cover different portions of the property area. In 1985, mapping by MERQ in the Amos area covered 1200 square kilometres including the Despinassy project area (DP-86-21). The geological maps were published at a scale of 1:20,000.

In 1963, two vertical holes were drilled on lot 34, Range IV and on lot 36, Range II, apparently to look for ground water (GM-13832). Both intersected granite and no samples were taken.

The property was first explored by Asarco Exploration Company of Canada Ltd. in 1970 for base metals. They completed linecutting, electromagnetic and magnetometer surveys over the property consisting of four lots (9, 10, 11 and 12), Range III, Despinassy Township (GM-26986,). In October 1970, they drilled one 76.2m hole to test the best part of a conductive zone outlined by the geophysical surveys(GM-26987). The hole intersected highly deformed rhyolitic rock, interbedded with andesitic tuff and graphitic sediments. No gold mineralization was reported, but a 4.6m thick rhyolitic unit returned 0.45% Pb.

In 1972, the south central part of the property was explored by UMEX, again for base metals. They completed a ground EM survey and drilled a 53.0m hole (DU-14), on

conductor 6- 160, lot 28, range II. Only three samples were assayed and one returned 0.01 opt Au (GM 28265).

In 1975, Les Mines Riviere La Grande completed line cutting and a ground electromagnetic surveys in the southeast part of the property. No further work was carried out (GM 30365 and 30676).

From 1977 to 1979, SOQUEM carried out regional exploration for base metal. They completed reconnaissance geological work, ground EM and magnetometer surveying and diamond drilling. SOQUEM drilled nine holes on the property for 1332 metres. They drilled east-west EM anomalies and returned anomalous gold over a strike length of 1.7km. Values up to 8.2g/t Au over 1.5m were encountered (GM 33672, 33673, 33674, 33675, 34414, 34734, and 35081).

In 1986, UMEX staked the ground covering the gold anomalous intersections obtained by SOQUEM during their drilling. UMEX carried out line cutting, MAX MIN I and ground magnetometer surveys, and diamond drilling. UMEX drilled five holes for 920 metres. They were able to reproduce and extend for 100 metres to the east the SOQUEM results. The best result from the UMEX drilling is 16.7 g/t Au over 0.7m in hole DT-88-1 (GM 45173, 45174, and 47969).

Together, SOQUEM and UMEX outlined 1.8 kilometre strike length of stratigraphy favourable for hosting gold mineralization. Of the 14 holes drilled (2252m), 10 intersected multiple gold zones with several assays of >1.0 g/t Au.

In 1996, Hemlo Gold (now Battle Mountain Canada) acquired a large package of land which adjoined the UMEX claims at the west and south boundaries in the Despinassy Township. Hemlo completed limited line cutting, soil geochemistry, ground magnetic and IP geophysical surveys on their claims (GM 54857, 54858 and 54859).

Since January 1998, Cameco completed 206.3 kilometres of linecutting and grid refurbishing, 171 line-kilometres of total field magnetic surveying , four line-km of MaxMin H.L.E.M. surveying, 11 line-kilometres of gradient I.P. surveys, 11.9 line-kilometres of dipole-dipole I.P. (a = 25 and n = 1 to 6) surveys and 88.1 kilometres of pole-dipole I.P. surveys (a = 25, n = 1 to 6). The geophysical surveys were carried out by Geoloa in 1998 (Lavoie, 1998, GM 56475; Plante, 1999, GM 56591), by Geophysique TMC in 1999 (Lambert 1999a and b; GM 57822 and 57407) and by Val d'Or SAGAX in 2000 (Bérubé, 2000), all compagnies are from Val d'Or, Québec.

From 1998 to 1999, Cameco completed 7,544 metres of diamond drilling in thirty holes (Faber, 1998; Babin et al., 1999a and b; Koziol et al., 1999; Babin et al., 1999). The work outlined a 5 km-long and 1 km-wide deformed and altered corridor trending approximately east-west and containing several gold anomalous horizons. Twenty-seven of the thirty holes returned gold values higher than 100ppb and 14 holes returned gold assays exceeding 1.0 g/t Au.

During the winter 2000, Cameco drilled and additional 8,681.6 metres in 24 holes on the Despinassy property (Babin, 2000). Nineteen of the twenty-four holes (DES0031 to 49) were drilled to verify the lateral and vertical continuity to the gold mineralization intercepted in holes DES98-04, DES98-05, DES99-17 and DES99-18, between line 1+00W and 10+00W (Zones 1, 2, 3 and 4). Eighteen of the 19 holes (excluding 47) intersected multiple, strongly phyllosilicate-altered and deformed horizons (up to 70 metres thick), with abundant felsic dykes and auriferous quartz veining. These horizons returned highly anomalous gold assays including 232 core samples grading more than 1.0g/t Au and 15 samples grading more than 10.0 g/t Au. The best and widest mineralized zones of the 2000 drill program were intersected in holes DES00-32 (3.5g.t Au.11.1m in Zone 1), DES00-38 (1.0g/t Au/30.8m in Zone 3), DES00-40 (8.5g/t Au/2.2m in Zone 4), and DES00-45 (5.1g/t Au/9.7m in Zone 2). These intervals correspond to areas of abundant quartz veining. Hole DES00-47 intersected narrow altered intervals, which returned only weakly anomalous gold assays.

Holes DES00-50, 51 and 52 were drilled to test I.P. targets located between the mineralized zones intersected in holes DES99-17 and the gold anomalous zone intersected in the upper part of hole DES99-26. They intersected narrow intervals with significant gold assays within the mafic volcanics and the melano-gabbro (quartz-eye mafic unit).

The last two holes (DES00-53 and 54) were drilled to test I.P. and H.L.E.M. targets in the northwest corner of the property. Hole DES00-53 intersected several horizon with anomalous base metals, but no significant gold assays were returned from neither hole.

The two phase fall 2000-winter 2001 diamond drilling program consisted of a total of 9 holes for 4,397.7 metres, using NQ size core. The first phase totaling 1453.9 metres in 4 holes was carried out from October 30 to November 22, 2000. Holes DES00-55 and DES00-56 were targeting IP anomalies at the interpreted fold closure to the southwest of the main gold zones. Hole DES00-57 was testing an IP anomaly corresponding with the interpreted western extension of the Zone 2 horizon and hole DES00-58 was testing the stratigraphy between the eastern and central mineralized areas. The phase 2 holes DES01-59, 60 and 61 were targeting the depth extension of mineralized zones in the area of hole DES99-17, between 500 and 600 metres vertical depth. Holes DES01-62 and 63 were targeting depth extensions of the mineralization intersected in holes DES99-09 and DES98-07 (between 100 and 200 metres vertical depth).

During the winter of 2005, a Phase One drilling program consisting of 20 drill holes aggregating 5,307 m was completed on the property by Alto Ventures. Work was carried out on the main gold zone, known as the DAC Zone and on induced polarization anomalies lying along its eastern and western geological/structural projections. During this program, 1,594 core samples were collected and sent out for analysis for gold.

On the DAC Zone, most of the drilling was aimed at filling in large gaps between shallow drill sections and testing its eastern and western limits, in order to better

understand the controlling structure; and one hole was aimed at partially filling such a gap at depth.

Drilling encountered many quartz veins and broad quartz flooded and/or strongly silicified zones hosting moderate to strong gold mineralization. Some of the more significant intersections are 22.14g Au over 1.4 m in DES05-64, 12.3 g Au over 4.9 m in DES05-67, 55.0 g Au/t over 1.0 m came in DES05-68, 10.69 g Au/t over 2.5 m in DES05-79 and 6.78 g Au over 2.7 m in DES05-81.

An independent evaluation by W.A Hubacheck Consultants Ltd. following Alto's Phase One drill program (Alto news release dated November 28, 2005), indicated that the DAC deposit may have the potential to contain between 303,000 and 670,000 tonnes grading 6.8 to 7.8 grams gold per tonne (g/t). The Phase Two drill program was designed to enhance the definition of the mineral resource at the DAC deposit to be compliant with NI 43-101 standards.

During the winter of 2006, a Phase Two drilling program, comprising 5,106 metres (m) involving 19 holes has significantly extended the area of gold mineralization within the DAC Zone and confirms continuity and grade of the individual veins. Assays from the final drill holes include typical gold intercepts of 14.3 g/t over 2.1 m, 19.5 g/t over 0.7 m and 13.2 g/t over 1.0 m within wide, lower grade alteration envelopes containing grades up to 2.3 g/t over 8.0 m and 0.9 g/t over 27.9 m.

## **9 GEOLOGICAL SETTING**

#### **REGIONAL GEOLOGY**

The property is located within the Amos-Barraute section of the southeastern portion of the Abitibi Greenstone Belt. According to Otis and Beland (1986), most of property is underlain by metavolcanic rocks of the Amos Group (Lower Amos Formation), characterized by tholeitic basalts intruded by thick ultramafic and grabbro sills. The southern limit of the property is underlain by rocks of the Harricana Group (Upper Figuery Formation) comprising porphyritic andesite, volcaniclastic turbidite, conglomerate, iron formation, dacite and rhyolite.

The metavolcanic rocks in Despinassy Township have been affected by two deformation events. The first one is interpreted to coincide with the Kenoran orogeny and is responsible for the formation of regional scale folds. The axial trace of a regional anticline (Ducros anticline) passes just south of the property. The anticline is characterized by an overturned axial plane oriented ESE, dipping steeply to the north, with a fold axis plunging 30E to 50E to the west. The large granitic batholith (Bernetz), found at the northern limit of the property, is interpreted to have been emplaced during this tectonic event. The second deformation event is related to the intrusion of the Montgay batholith, located to the southeast of the project area. It is responsible for the deviation to the NNW-SSE of the axial trace of the regional folds. Both the Bernetz and the Montgay batholiths upgraded the regional greenschist facies metamorphism to lower amphibolite facies within 5 km of their contacts. Late NNE and NE faults crosscut all lithologies, except the diabase dykes emplaced along the NE faults. Regional structural measurements were taken from a series of outcrops along the Laflamme River, about 1.5 km south of the Despinassy property. The strong foliation observed regionally in the altered mafic metavolcanics is interpreted to reflect a composite between an earlier  $S_1$ foliation, transposed parallel to a later S<sub>2</sub> foliation. The mean orientation of the composite  $S_1/S_2$  is 257E/70E and it is associated with an interpreted regional stretching lineation oriented at 350E/51E.



FIGURE 9-1 REGIONAL GEOLOGY

#### PROPERTY GEOLOGY

The geological map of the property (Figure 9-2) was constructed by compiling available airborne and ground magnetometer surveys data, IP and Resistivity and HLEM data and combining these geophysical data sets with diamond drill hole information and the very few outcrops found near the Laflamme River and at the northwest corner of the property. The descriptions of the geology provided below are limited mainly to the centre of the property, where most of the drilling has been carried out.

Most of the property is interpreted to be underlain by strongly foliated mafic volcanics, interbedded with minor amounts of siltstone, graphitic mudstone and sulphide iron formation (good H.L.E.M. conductors and strong I.P. anomalies). In drill core, the mafic volcanic rocks are very fine grained and composed mainly of chlorite and amphibole with minor feldspar. They are variably altered to carbonate (mainly calcite), biotite, sericite and/or silica-rich bands, generally less than one centimetre wide and accompanied by disseminated pyrite, pyrrhotite, with minor sphalerite, galena and chalcopyrite. Epidote alteration and garnetiferous bands are also observed locally. Historically, these rocks were referred to as mafic to intermediate tuff, but in most cases, they are deformed and altered mafic flows and sills. No obvious pillowed or tuffaceous textures were observed in drill core.

The mafic metavolcanic rocks are also intruded by a suite of syn-volcanic mafic sills composed of three separate end members: amphibole phyric gabbro, leucocratic magnesium-rich gabbro and melanocratic iron-rich, quartz phyric gabbro. The leucocratic gabbro is composed of 10 to 50% white plagioclase laths (1 to 5 mm long), 5 to 20% amphibole and/or biotite (1 to 3 mm in size) and 30 to 50% chloritic matrix. Very rare blue to grey interstitial quartz grains are found locally. The leuco-gabbro and amphibole phyric gabbro are strongly deformed and altered in several holes. However, no significant gold assays were obtained from these two gabbroic phases, in contrast with the numerous gold enriched intersections found in the melanocratic phase.


FIGURE 9-2 PROPERTY GEOLOGY

Despinassy Shear Zone Chicobi Faur

LEGEND Granite Sediments Volcanics Atto Claims (under applica 0 2 km

# **10 DEPOSIT TYPES**

Anomalous to sub-economic gold mineralization occurs in two wide gold-bearing shears lying along or close to the north and south boundary of the mafic volcanic assemblage. These shears have been invaded by quartz-porphyritic felsic intrusive sills and display very strong mylonitic deformation, biotite and sericitic (potassic) alteration and locally, silica alteration. This unit is flanked both to the north and south by a gabbroic unit characterized by locally abundant blue quartz eyes. Shears locally hosting very high grade gold mineralization also occur within the southern gabbroic unit and lie parallel to the main gold-bearing shears in the volcanic unit.

The most extensive and higher grading gold mineralization occurs where the two shear zones and their felsic intrusives are strongly folded, brecciated and quartz flooded, in a large "Z" fold structure, some 150 metres in amplitude. This fold structure is host to 4 broad zones of metre to decimetre thick mineralized shearing in what has been described as the DAC Zone. Based on this structural model, multiple shears encountered in drilling, likely represent folded portions of the two primary shears described previously.

The most extensive and strong gold mineralization occurs in the central portion of the fold, in the shear zone designated Zone 2, along what appears to be faulting and brecciation associated with the axial plane of the large fold. This zone also comprises the most extensive intersections of felsic intrusives, which were cored over intervals ranging to 15 to 20 metres. The intrusives display the strong brecciation and quartz flooding. Gold is directly linked to this quartz and occurs primarily in the native state.

# **11 MINERALIZATION**

The type (1) mineralization appears to be genetically related to the emplacement of the felsic porphyry dykes described above. The altered mineralized zones are generally centered around the felsic dykes and the alteration is commonly more intense and wider at the footwall of those dykes. The width and the intensity of the alteration was observed to be proportional to the abundance and width of the felsic dykes. The alteration of the wall rock displays a strong asymmetric zonal distribution from the dyke contacts outward. Sericite development, pervasive biotite and calcite alteration, grey calcitequartz veins/veinlets and disseminated pyrite (with minor pyrrhotite and sphalerite) are more abundant near the dyke contacts. Moving away from the dyke, the sericite alteration and the amount of calcite-quartz veining decrease rapidly, the biotite-calcite alteration becomes concentrated in 1 to 2cm-thick layers, and the percentage of sulphides decreases gradually. The ratio of pyrrhotite to pyrite is usually increasing outward from the felsic dyke contacts. Further away from the dyke contacts, the biotite and sulphides gradually disappear and only the banded calcite alteration is left as the most distal alteration facies. Gold grades decrease gradually from the dyke contacts outward and generally no anomalous gold assays are found without the presence of biotite or sericite in the host rock.

The type 2 mineralization is characterized by younger quartz veins and veinlet stockwork, generally less than 1 metre wide, but up about 10 metres wide in hole DES00-45. These veins crosscut the earlier mineralization and the  $S_1$  foliation, but are boudinaged and broadly folded along the  $S_2$  foliation (late syn-kinematic). These veins contain generally higher grade gold mineralization than the phyllosilicate event, commonly grading more than 5g/t Au, up to 178.5 g/t Au over 1.0 metres (in hole DES06-85). Disseminated to stringer pyrite is always present in the auriferous veins along with variable amounts of pyrrhotite sphalerite, galena, chalcopyrite and visible gold. It was observed that the veins which contain visible gold, galena and sphalerite returned the highest gold assays. It should be noted, however, that minor amounts of

sphalerite are common, but many veins containing sphalerite did not return significant gold assays. Galena appears to be a better indicator mineral. The coarseness of the sulphides and the higher gold concentration in the milky white veins may indicate remobilization and concentration of pre-existing metals associated with the earlier event.

Since all the zones are alike and appear to follow lithological contacts, the correlation between the different zones from section to section was made using stratigraphy. All these zones were first established from the stratigraphy on 3+00W (now section 317480E using hole DES9917). The vein zones 1a, 2a, 2b, etc. shown in the drill sections were defined by the presence of abundant quartz veining (>25%), mainly the milky white auriferous quartz vein type. Since these veins appear to be discontinuous over more than 50 metres along strike, the correlation of these quartz veining zones between sections is still very speculative with some of these veins included in the inferred resource category based on adequate drill hole density. However, these vein zones are interpreted to extend more than 600 metres down dip, as suggested by vein 2a and 2b in the cross section on line 317480E.



FIGURE 11-1 LOCATION OF MINERALIZED ZONES



# FIGURE 11-2 SCHEMATIC CROSS-SECTION OF DAC DEPOSIT SHOWING MINERALIZED ZONES ON SECTION 317,480E



FIGURE 11-3 TYPE 2 VEINING WITH VISIBLE GOLD



FIGURE 11-4 TYPE 2 PYRITIC VEINING WITH VISIBLE GOLD

Seven gold zones, named from north to south, 2A, 2B, 3A, 3B, 4A, 5A and 5B, were used to estimate the DAC Deposit Mineral Resource. Figures 11-8 is a typical cross section of the gold zone outlines used for resource estimation on section 317,430E.



FIGURE 11-8 DAC DEPOSIT SECTION 317,430E

# **OTHER GOLD ZONES**

A newly discovered Darla zone is located in the Project area. These are shown on Figure 20-2 and is described in section 20-2.

# **12 EXPLORATION**

# **GEODETIC SURVEY CONTROL**

Key exploration data contained within the study area includes diamond drilling, drill hole survey data, geophysics, and geological mapping. The spatial location of most of this data is usually defined with reference to one grid system: the Cameco-Alto grid. The Cameco-Alto grid was established by Cameco in 1997 and used to provide reference for surface geophysical surveys during 1997 and 1998. The baseline for the cartesian grid is located approximately 750 meters north of Highway 397 and oriented at an azimuth of approximately 270°. The baseline origin was set at 4+00 Northing and line 0+00 Easting. In 2000, Corriveau and Associates carried out a GPS Trimble survey locating drill hole collars and grid lines. The drill hole collars were referenced to a UTM coordinate system using the NAD 83 projection with the baseline origin coordinates converted to 5401650N/317800E. In 2005, Alto converted all UTM drill hole collar coordinates to NAD 27 projection to be consistent with all drilling programs from 1998 to 2006 (Figure 12-1).

# HUBACHECK CONSULTING GEOLOGISTS



## **GEOPHYSICAL SURVEYS**

In late 1997, Cameco completed 31 kilometres of line cutting, 22 kilometres of gradient I.P. surveys, and 2 kilometres of dipole-dipole I.P. surveys (Lavoie, 1998). During the winter of 1998, Cameco completed 1,389 metres of diamond drilling in seven holes (Faber, 1998). In the fall of 1998, 32 kilometres of line cutting and magnetometer surveys, and 28 kilometres of pole-dipole I.P. surveys were carried out (Plante, 1999).

# **GEOLOGICAL MAPPING**

The geological map of the property (Figure 9-2) was constructed by compiling available airborne and ground magnetometer surveys data, IP and Resistivity and HLEM data and combining these geophysical data sets with diamond drill hole information and the very few outcrops found near the Laflamme River. Regional structural measurements were taken from a series of outcrops along the Laflamme River, about 1.5 km south of the Despinassy property. The strong foliation observed regionally in the altered mafic metavolcanics is interpreted to reflect a composite between an earlier S<sub>1</sub> foliation, transposed parallel to a later S<sub>2</sub> foliation. The mean orientation of the composite S<sub>1</sub>/S<sub>2</sub> is 257E/70E and it is associated with an interpreted regional stretching lineation oriented at 350E/51E.



# **13 DRILLING**

A total of 111 drill holes totalling 31,486 m of surface diamond drilling have been completed within the bounds of the study area. (Table 13-1). A majority of the holes (56%) were drilled between 1998 and 2001 in programs co-ordinated by Cameco. The remainder were drilled in later programs managed by Alto from 2005 to 2006.

# TABLE 13-1PROJECT DRILLING SUMMARYAlto Ventures Ltd.Despinassy Property, Val d'Or, Quebec

Program	Period	Holes	Metres
Soquem	1977-1979	9	1,232
Umex	1986	5	920
Cameco	1998	7	1,389
Cameco [Phases 1 & 2]	1999	18	4,427
Cameco [Winter]	2000	24	8,682
Cameco [Phases 1 & 2]	2000-2001	9	4,398
Alto [Phase 1]	2005	20	5,307
Alto [Phase 2]	2006	19	5,106
Total Surface Drilling		111	31,461



FIGURE 13-1 SURFACE DRILLING PLAN



#### CAMECO DRILLING PROGRAMS - 1998 TO 2001

The 1998 winter drilling program comprised 1,389 metres of drilling in seven holes. Of the seven holes, two were aimed at the known mineralized areas and five of the holes investigated geophysical anomalies from ground magnetic data interpretation and an IP-Resistivity survey. Holes DES98-04 and DES98-05 tested the gold bearing deformation zone and succeeded in discovering a second gold bearing high strain zone. Holes DES98-01, -02, -03, and -06 tested geophysical anomalies which were explained by graphitic sediments, sulphide mineralized sediments, and chilled margins of a monzonite pluton. Hole DES98-07 tested a weak IP-Resistivity anomaly and collared in the bottom part of the Despinassy Shear Zone, 1.5km east of hole DES98-04.

Earlier in 1999, Cameco completed two diamond drilling programs, totalling 4,427 metres in 18 holes. Phase I consisted of 2437 metres in 11 holes (DES99-08 to 99-18) and resulted in the discovery of significant gold mineralization, including 11.0 g/t Au over 3.1 metres, 10.4 g/t Au over 1.6 metres and 7.0 g/t Au over 5.1 metres, all in hole DES99-17 (Babin et al., 1999a). The Phase II program consisting of 1990 metres in seven holes, tested geophysical targets along strike to the east of the high grade gold mineralization intersected in DES99-17 (Babin et al., 1999b). This program was highly successful because two of the seven holes intersected gold in altered rocks, up to 4.6 g/t Au over 2.0 metres in hole DES99-20 (now called Zone 20) and 2.4 g/t Au over 6.0 metres in DES99-21 (now called Zone 21), approximately three kilometres east of DES99-17.

The winter 2000 drilling program on the Despinassy property totalled 8,681.6 metres in 24 holes. Nineteen of the twenty-four holes (DES00-31 to 49) were drilled to verify the lateral and vertical continuity to the gold mineralization intercepted in holes DES98-04, DES98-05, DES99-17 and DES99-18, between line 1+00W and 10+00W (Zones 1, 2, 3 and 4). Eighteen of the 19 holes (excluding 47) intersected multiple, strongly

phyllosilicate-altered and deformed horizons (up to 70 metres thick), with abundant felsic dykes and auriferous quartz veining. These horizons returned highly anomalous gold assays including 232 core samples grading more than 1.0g/t Au and 15 samples grading more than 10.0 g/t Au. Hole DES0047 intersected narrow altered intervals, which returned only weakly anomalous gold assays.

The best and widest mineralized zones of the 2000 drill program were intersected in holes DES00-32 (3.5g.t Au.11.1m in Zone 1), DES00-38 (1.0g/t Au/30.8m in Zone 3), DES00-40 (8.5g/t Au/2.2m in Zone 4), and DES0045 (5.1g/t Au/9.7m in Zone 2). These intervals correspond to areas of abundant quartz veining. Holes DES00-50, 51 and 52 were drilled to test I.P. targets located between the mineralized zones intersected in holes DES99-17 and the gold anomalous zone intersected in the upper part of hole DES99-26. They intersected narrow intervals with significant gold assays within the mafic volcanics and the melano-gabbro (quartz-eye mafic unit). The quartz-eye mafic unit is folded around a core of strongly foliated and altered leuco-gabbro. The last two holes (DES00-53 and 54)were drilled to test I.P. and H.L.E.M. targets in the northwest corner of the property. Hole DES00-53 intersected several horizon with anomalous base metals, but no significant gold assays were returned from neither hole.

The two phase fall 2000-winter 2001 diamond drilling program consisted of a total of 9 holes for 4,397.7 metres, using NQ size core. The first phase totaling 1453.9 metres in 4 holes was carried out from October 30 to November 22, 2000. Holes DES00-55 and DES00-56 were targeting IP anomalies at the interpreted fold closure to the southwest of the main gold zones. Hole DES00-57 was testing an IP anomaly corresponding with the interpreted western extension of the Zone 20 horizon and hole DES00-58 was testing the stratigraphy between the eastern and central mineralized areas. Holes DES01-59, 60 and 61 were targeting the depth extension of mineralized zones in the area of hole DES99-17, between 500 and 600 metres vertical depth. Holes DES01-62 and 63 were targeting depth extensions of the mineralization intersected in holes DES99-09 and DES98-07 (between 100 and 200 metres vertical depth).

### ALTO PHASE 1 & 2 DRILLING PROGRAMS – 2005 & 2006

During the winter of 2005, 20 diamond drill holes totalling 5,307.4 metres, were completed on Alto's Phase 1 drilling program. Core retrieved was of NQ size. On the DAC Zone, most of the drilling was aimed at filling in large gaps between shallow drill sections and testing its eastern and western limits, in order to better understand the controlling structure; and one hole was aimed at partially filling such a gap at depth. Drilling encountered many quartz veins and broad quartz flooded and/or strongly silicified zones hosting moderate to strong gold mineralization. Some of the more significant intersections are 22.14g Au over 1.4 m in DES05-64, 12.3 g/t Au over 4.9 m in DES05-67, 55.0 g/t Au over 1.0 m came in DES05-68, 10.69 g/t Au over 2.5 m in DES05-79 and 6.78 g/t Au over 2.7 m in DES05-81.

During the winter of 2006, a Phase Two drilling program, comprising 5,106 metres involving 19 holes has significantly extended the area of gold mineralization within the DAC Zone and confirms continuity and grade of the individual veins. Assays from the final drill holes include gold intercepts of 14.3 *g/t* over 2.1 m, 19.5 g/t Au over 0.7 m and 13.2 g/t Au over 1.0 m within wide, lower grade alteration envelopes containing grades up to 2.3 g/t Au over 8.0 m and 0.9 g/t Au over 27.9 m.

### DRILL CORE LOGGING

#### CAMECO 1998-2001 AND ALTO 2005-2006 PROGRAMS

All drill core collected on the property since 1998 was logged at the time of drilling. Information collected was recorded on hard copy drill logs including observations on lithology, alteration, structure, and mineralization which were included in the project drilling reports. The Cameco drill logs were not incorporated into typical geologic software. A review of the historic logs indicates that, in most cases, the logs are complete and of high quality, but that the level of detail of alteration, structure and naming of rock

units required standardization. When Alto took over the project, M. Koziol and R. Tremblay initiated a re-logging program focusing on alteration and structural features which were incorporated into a logging program. Data collected during Alto's core logging programs was entered directly on a lap top computer, utilizing the DHLogger program, developed by Century Systems. Drill hole cross-sections and plans were generated using BoreSurv software. All sample intervals were selected and marked by the project geologist and then recorded in assay booklets.

HCG recommends that magnetic susceptibility measurements to be taken for major lithofacies with high priority given to characterizing the magnetic response of the paired gabbro marker beds.

# CORE STORAGE FACILITY

Once examined, described and sampled, core was temporarily stored on site. It was later moved to facilities owned by Forages Val d'Or in Val d'Or, where the core from the Cameco work is also stored.



## **COLLAR SURVEYING**

Procedures for surveying diamond drill hole collars have been consistent between drilling programs. The information from most programs is relatively complete and shown on the front page of drill logs. The Cameco-Alto grid was established by Cameco in 1997 and used to provide reference for surface geophysical surveys during 1997 and 1998. The baseline for the cartesian grid is located approximately 750 meters north of Highway 397 and oriented at an azimuth of approximately 270°. The baseline origin was set at 4+00 Northing and line 0+00 Easting. In 2000, Corriveau and Associates carried out a GPS Trimble survey locating drill hole collars and grid lines. The drill hole collars were referenced to a UTM coordinate system using the NAD 83 projection with the baseline origin coordinates converted to 5401650N/317800E. The collar locations for Alto(2005-2006) surface drill programs were originally determined by chaining from surveyed drillhole casings and measurements with a chain from picket locations on cut grid lines.

According to drill logs, the collar elevations for most of the surface holes by Cameco and a few holes drilled by Umex was determined by a geodetic survey completed in May, 2000. Elevations for holes after 2000 were spotted using information from this survey. The azimuth for most surface drill holes appears to have been determined by turning off angles from cut grids with a compass or by establishing foresight and backsight azimuths using pickets on cut lines.

HCG recommends that Alto undertakes a geodetic survey to reference the 2001, 2005 and 2006 drill holes (DES00-52 to DES06-102) to the previous GPS control survey conducted in 2000.

# DOWN HOLE SURVEYING

Procedures for down hole surveying have been consistent with time. The down hole surveying for the Cameco(1998-2001) and Alto(2005-2006) programs was conducted with a Reflex single shot instrument. Drill hole orientation measurements were collected

at intervals ranging 50 to 60 m. Reflex measurements were also taken at the top of the drill casing (zero survey datum). These measurements were generally consistent with the dip measurement set by the project geologist using an inclinometer.

The average dip deviation of drill hole (< 400m lengths) have trajectories which flatten at 1 degree per 60 meters. Longer drill holes (up to 800m) have drill hole trajectories which flatten at 1 degree per 90 meters. No drill hole stabilization tools were employed by the various contract diamond drilling companies.



# **14 SAMPLING METHOD AND APPROACH**

#### DIAMOND DRILLING

As previously described on table 13-1, 111 holes totalling 31,461 m, of surface diamond drilling have been completed in the project area since the late 1970's with major exploration work taking place from 1998 to 2001 and 2005 to 2006. Most of this drilling has been concentrated in the central portion of the study area and designed to collect information for the DAC Deposit and Darla Zone.

During the Cameco drilling campaigns from 1998 to 2001, Diamond drilling services were provided by Forage M. Rouillier Inc. of Amos and also were provided by Ross-Finlay 2000 Inc, Division Forage Moderne (1985) Inc of Val d'Or, Québec. Hole locations were measure according to the grid coordinate and cross referenced with GPS (Garmin 12XL) readings ( $\pm 5$  to 10 metre accuracy). During the Alto drilling campaigns in 2005 to 2006, diamond drilling was contracted to Forage Mercier Inc. based in Val d'Or.

During the Cameco exploration term, The target selection, drill core logging, core sampling and overall project supervision was provided by Dominic Babin and Mike Koziol Split samples for analyses were brought by Cameco staff to Chimitec Bondar Clegg of Val d'Or, where the samples were analyzed. During the Alto exploration term, the services of R. Tremblay, P. Geo. was retained to assist in organizing and launching the winter diamond drilling program, under the direction of M. Koziol, exploration manager for Alto. Tremblay was then responsible for supervising drilling operations, logging the core, sampling and reporting.

Before launching the field program, necessary permits for drilling operations on crown lands were obtained with the help of Mr. Gaston Lacroix, forestry engineer. On the two private lots, where a major portion of the drilling was to be completed, permission

was obtained from the landowners, René and Marcel Constantineau. Preparation of access trails and collar locations for drill holes on crown land, was completed by the drilling contractor, whereas on the private lots, this work was completed by the landowners.

The method for sampling drill core has been fairly consistent during the Cameco and Alto exploration programs. Most of the past sampling has been focused on veins, shear zones and/or alteration, with an emphasis on sections that appeared to be higher in grade. Most past sampling carried out by Cameco/Alto was conducted using standard one metre samples over broad alteration zones. In most cases, the boundaries of the samples were planned to coincide with lithological contacts, alteration envelopes and discrete mineralized vein zones. The width of most of the samples was between 0.5 m and 1.5 m.

#### CORE RECOVERY AND ROCK QUALITY DESIGNATION (RGD)

Core recovery and RQD measurements are available from 4 deep drill holes DES01-58 to 61 from the 2001 drilling program. These deep holes traversed across the entire DAC Deposit stratigraphy with hole DES01-60 showing RQD ranging from 60% to 95% from downhole depths from 125m to 774m. Core recovery is 100% in these holes. There is not enough data collected to determine the RQD properties of the DAC deposit mineralized zones.

HCG recommends that Alto perform RQD measurements on all drill holes piercing Zones 2A, 2B, 3A, 4A at the -100m to -125m vertical elevations.

# 15 SAMPLE PREPARATION, ANALYSES, SECURITY AND PROTOCOLS

The procedures for historic sample preparation and assaying are described in several past reports compiled by Cameco employees (1998 to 2001) and independent consultants for Alto in 2005 to 2006. Historical procedures for sample preparation were fairly consistent. All of the drill core samples collected by Cameco/Alto were obtained from NQ core that was sawn with a diamond saw. Routine assaying was often conducted on final sub-samples that weighed one assay ton and selective metallics assaying was carried out. Routine assaying was typically conducted with sub-samples weighing 30 g/t and metallics was used for most samples containing visible gold. The reject of samples with gold assays equal or above 2.0g/t were systematically re-assayed using FA-AA of a 30g split. All samples with free gold (observed during core logging), were re-analysed using metallic screen preparation method with FA-AA (generally 250g cut). Final sample preparation and assaying was conducted at one laboratory under separate managements: with Chimitec Bondar Clegg of Val d'Or(1998 to 2001) and ALS-Chemex, Chimitec's Val d'Or laboratory (2005 to 2006). This lab was and is currently an ISO 9002 certified lab.

In August 2006, HCG conducted an independent geochemical program engaging Accurassay Laboratories of Thunder Bay to perform 55 additional pulp metallic analyses on zone composites retrieved from 11 drill holes completed in 2005 and 2006.

# SAMPLE PREPARATION AND ANALYSIS

#### CAMECO DRILLING PROGRAMS – 1998 TO 2001

. In 1998, 463 samples were analysed for gold using Fire Assay-Atomic Absorption and 34 element ICP scan following an aqua regia digestion. Twenty samples were also sent for major elements and gold assay. The twenty-one samples with more than 1g/t Au

were re-assayed using pulp metallic method at a +150mesh. Pulp metallic assaying was also done on the same samples and returned values similar to fire assay results; within 10% error. Only a few samples returned with an error of 20% difference. The analytical work was done by Intertek Testing Services (Chimitec) of Val d'Or.

In 1999, 1,066 samples were analysed for gold using Fire Assay-Atomic Absorption finish (1 assay ton). These 30 g samples were also analysed for 34 other elements using an ICP scan following an aqua regia digestion. Two hundred and forty-four samples, representing 23% of the population, returned gold values of at least 100ppb. Thirty-eight rejects from these samples with more than 2.0g/t Au were re-assayed using the same method and seven samples containing visible gold were re-assayed by pulp metallics utilizing a 150 g portion of the original reject. The re-assayed gold analysis were similar to the original assays and are reported in the respective logs. Internal assay checks and quality control procedures are routinely performed by Chimitec.

In 2000, 4,399 samples were analysed for gold using Fire Assay-Atomic Absorption finish (1 assay ton). Of these 30 g samples, 3366 were also analysed for 34 other elements using an ICP scan following an aqua regia digestion. Of these, 1,300 samples, representing 30% of the population, returned anomalous gold values of at least 100ppb. Two hundred and thirty-seven samples (5.4%) returned a gold value of at least 1.0g/t and 15 samples assayed more than 10g/t gold. The reject of samples with gold assays equal or above 2.0g/t Au and reject of samples that returned unexpected gold assays judging from the core logging, were systematically re-assayed using FA-AA of a 30g split (126 samples). Seven rejects of selected samples in hole DES00-43 were re-assayed a third time for verification. One hundred and five rejects, comprising all samples where the first assay and the re-assay were inconsistent, all samples of mineralized quartz veins and all samples with free gold (observed during core logging), were re-analysed using metallic screen preparation method with FA-AA (generally 250g cut, but one cut was 1kg and 2 cuts were less than 150g. The analytical work was completed by Chimitec Bondar Clegg of Val d'Or. Internal assay checks and quality control procedures are routinely performed by Chimitec and follow industry standard.

. In 2001, 1019 samples were analysed for gold using Fire Assay-Atomic Absorption finish (1 assay ton) and for 35 other elements using an ICP scan following an aqua regia digestion. Of this total, 215 samples, representing 21% of the population, returned anomalous gold values of at least 100ppb. Of the 561 samples taken during the first phase of drilling outside the known mineralized areas, only 4 samples returned assays above 1.0g/t (0.7%) and no sample returned assays above 10g/t Au. In contrast, of the 458 samples taken during the winter drilling phase, 25 samples returned assays higher than 1.0g/t Au (5.5%), including 3 samples returning assays higher than 10g/t Au. The reject of samples with gold assays equal or above 2.0g/t were systematically re-assayed using FA-AA of a 30g split (19 samples). Sixteen samples were re-analysed using metallic screen preparation method with FA-AA (250g cut). Four remaining half of quartz vein samples (in hole DES01-60) were sawn in quarters to verify the nugget effect of the gold (Samples 64923A, 64925A, 64928A and 64929A). The samples were analysed completely using metallic screen preparation method with FA-AA finish. All quarter samples returned assays very similar to the half samples. The analytical work was completed by Chimitec Bondar Clegg of Val d'Or. Internal assay checks and quality control procedures are routinely performed by Chimitec and follow industry standard.

During the 2001 drill program, 10 standard samples were sent to the laboratory to test a new assay pill method (from Assay Solutions RBN) to verify the laboratory preparation and gold analysis results. After verification of the preparation method with a Chimitec representative, it was concluded that the assay pill test is not suitable for core samples, because it is difficult to homogenize the pill with the rock sample.

#### DESPINASSY WEIGHTED ASSAY CALCULATIONS

All assay reported for the mineralized zones by Cameco/Alto are weighted averages calculated using one or a combination of the methods described.

#### Re-assay on same pulp as original (30 gm samples)

(original assay + re-assay)  $\div$  2 = reported result

**Re-assay on reject (30 gm samples)** 

(original assay + reject assay)  $\div 2$  = reported result

#### Re-assay on pulp and reject (30 gm samples)

 $((\text{original assay} + \text{pulp re-assay}) \div 2) + \text{reject assay}) \div 2 = \text{reported result}$ 

#### Re-assay using pulp metallic (usually 250 gm sample)

(original assay x 30 gm) + (metallic assay x actual weight of sample fused, usually 250 gm) ÷ total weight of samples fused, usually 280 gm.

#### ALTO PHASE 1 & 2 DRILLING PROGRAMS - 2005 & 2006

In 2005, 1,594 samples were sent in for analysis. All samples were analysed for gold by fire assay (30 g) with a finish by atomic absorption. Results were reported in grams per ton. Selected samples returning elevated gold grades were re-analysed by metallic sieve analysis which involves total dissolution of samples. This method is often used to determine true gold grades of core characterised by the presence of native gold, which is commonly distributed in an erratic fashion. Table 15-1 lists the total number of samples analyzed including standards, metallic assays and check/repeat analysis. Assaying for gold and analysis for other elements were completed at ALS-Chemex, Chimitec's Val d'Or laboratory.

In addition to the laboratory's own assay checks, gold standards purchased from CDN Resource Laboratories were inserted every 25 samples submitted for assay. These samples start at sample no. 63650 and then bear even numbers finishing in 00, 25, 50 and 75.

Hole Number	Core Samples	Standards Assayed	Metallic Assays	Checks-Repeats	Total
DES05-64	106	4	3	15	128
DES05-65	129	0	1	6	136
DES05-66	117	5	3	13	138
DES05-67	121	5	4	13	143
DES05-68	104	4	3	9	120
DES05-79	108	6	0	10	124
DES05-80	96	4	0	3	103
DES05-81	123	3	0	8	134
DES05-82	94	4	0	5	103
DES05-83	<u>111</u>	<u>5</u>	<u>0</u>	<u>1</u>	117
Totals	1109	40	14	83	1246

#### TABLE 15-1 SUMMARY OF GOLD ANALYSES COMPLETED ON DAC DEPOSIT

#### WHOLE ROCK GEOCHEMISTRY

IN 2005

A total of 20 samples were sent for major elements, Zr, and Y. Samples with the least visible alteration were chosen for these analyses. The results from the mafic volcanic rocks were plotted against the Jensen plot. Four clusters are recognized, suggesting four different flows.

In 1999, 89 samples were also sent for whole rock analyses. Each sample was typically composed of three to five pieces of whole core, each 5 to 10 cm long, collected over a 3 m long interval. In case where the lithologic or alteration unit being sampled was less than 1 m long, only one or two core samples were collected. The sample intervals are reported at the end of the respective. Twenty of the whole rock samples were also analysed for gold and 34 element ICP. The analytical work was by Intertek Testing Services (Chimitec) of Val d'Or.

In 2000, 152 samples were also sent for whole rock analyses. Seventeen of these samples were also sent for REE analysis. Each sample was typically composed of three to five pieces of whole core, each 5 to 10 cm long, collected over a 3 m long interval. In cases where the lithologic or altered unit being sampled was less than 1 m long, only one or two core pieces were collected.

In 2001, 61 samples were also sent for whole rock analyses. Each sample was typically composed of three to five pieces of whole core, each 5 to 10 cm long, collected over a 3 m long interval. In cases where the lithologic or altered unit being sampled was less than 1 m long, only one or two core pieces were collected.

## SECURITY

The core shack was located at the Val d'Or airport, in facilities rented from Corecut-Pro Ltd. This company provided labourers for sawing of core for assaying and occasionally, to transport core back to the core shack. Once examined, described and sampled, core was temporarily stored on site. It was later moved to facilities owned by Forages Val d'Or in Val d'Or, where the core from the Cameco work is also stored.

# ASSAY QUALITY CONTROL AND QUALITY ASSURANCE

Historical procedures for quality control have included the use of quality control standards as well as re-sampling of core, rejects and pulps, using regular and metallics methods.

#### QUALITY CONTROL STANDARDS AND BLANKS

Information regarding quality control standards is available for drilling carried out by Cameco(1998-2001) and Alto(2005-2006).

Original assay data reports for the Cameco 1998-2001 drill programs (from Chimitec) indicates that control standards consisted of blanks and 4 types of in-house reference material. The standards were inserted to the sample stream at the rate of one per twenty samples and the blanks at the rate of one per forty samples. The reference materials used were Canmet Stream-Sed 4, 5 and BCC Geochem Std 4 and 5. Chimitec's AA and ICP instruments are calibrated using ISO traceable calibration standards and quality control standards are created from separate stock solutions. No major problems with blanks or standards were noted.

During Alto's Phase 1 and Phase 2 programs, four types of standards were inserted covering a grade range from 0.30 g/t to 7.4 g/t. In addition to ALS-Chemex's own assay checks, 128 gold standards purchased from CDN Resource Laboratories were inserted every 25 samples submitted for assay. The warning limit used is two times the standard deviation and the control limit is three times the standard deviation. Any work order with a standard running outside the warning limit will have the selected re-assays performed and any work order with a standard running outside the control limit is three times the control limit will have the entire batch of samples re-analysed.

HCG has analysed this information indicates that all standards are within a normal tolerance with the exception of the 0.3 standard which shows 3 samples exceeding the upper limit. Alto personnel have discussed this issue with the laboratory manager. The graphical reports are presented as follows:





## HUBACHECK CONSULTING GEOLOGISTS







## DUPLICATE ASSAY DATA

Duplicate data has been collected for both the Cameco and Alto programs. Most duplicates were collected at the time of drilling as part of internal lab QA/QC procedures. In most cases the duplicate data has been done on a non-blind basis and has not been checked by a third party laboratory. No quartered core duplicates were submitted by Cameco or Alto personnel to Chimitec or ALS-Chemex labs. The lab was instructed to prepare and analyse a second 250 gram split from the reject for samples > 2g/t Au on the original analysis.

HCG conducted a review of data using percent difference plots and scatter plots. The data-set used included approximately 257 samples from 102 drill holes. The lines of regression shown on the scatter plots indicate precision ranges from .87 to .93 which is considered to be within acceptable levels demonstrating good reproducibility.





#### PULP METALLICS

Metallics assaying was used frequently for programs co-ordinated by Canamax and Alto Most samples containing visible gold within sulphidized veins and alteration envelopes from these programs have been analyzed with pulp metallics. In the Cameco/Alto drilling programs, 142 samples received metallics analysis. The ALS-Chemex metallics are calculated from the weighted average of gold in one assay of the +150 portion and one assay of the -150 portion. The average total metallics assay value was 3.6 g/t Au and the average of the -150 portion pulp values was 2.73 g/t Au. The average difference between the pulps and total metallics values was 24%, indicating that some coarse gold was present in these samples. Comparing 22 samples grading greater than 5 g/t, the average total metallics values was 16.74 g/t and the average of the 150 portion pulp values was 12.09 g/t. The average difference increases to 28% which suggests there is fair consistency of distribution of fine gold in the DAC deposit.

A comparison of the mean average grades was made between the 142 pulp metallics[3.6 g/t avg. grade for Cameco samples processed by Chimitec] versus the original fire assay analyses[3.53 g/t]. The pulp metallic average grade report ~2% higher than the original fire assay results. In addition, A comparison of the mean average grades was made between the 53 pulp metallics[4.92 g/t avg. grade for 2005/6 samples processed by independent lab] versus the original fire assay analyses[5.38 g/t avg. grade processed by ALS-Chemex]. The independent lab's pulp metallic average grade report ~8.5% lower than the original fire assay results. This discrepancy has not been resolved at the time of writing. A larger number of samples is required , in a comparable batch of ~150 sample allotment, for additional pulp metallic processing. Alto has informed the author's that there is not enough sample material remaining from the Cameco drilling programs.

Overall, these results indicate gold in the DAC Deposit is fine-grained enough to respond well to normal fire assay procedures. However, to mitigate assaying errors that may occur due to coarse gold in approximately 28% of assays with grades exceeding 5 g/t within mineralized zones, pulp metallics methods should be used where visible gold is noted or suspected.



#### QC/QA CONCLUSIONS AND RECOMMENDATIONS

HCG concludes that the assays supporting the DAC Deposit Mineral Resource estimate are based on sample preparation and analytical protocols that meet standard industry practice and are reasonable and acceptable. The use of metallics should continue to be used on samples with VG and on samples where VG is suspected due to strong mineralization and alteration.

HCG recommends that the initial standard fire assay employ a 50 gram sub-sample taken from a 250 gram split from a sample which has been crushed and pulverized to - 150 mesh.

HCG recommends a 6 hole wedging program as an integral component of a Phase 3 drilling program outlined in section 22. The wedging program is designed to twin 6 key intercepts re-coring ~60 m of mineralized stratigraphy encapsulating Zones 2A to 3A. Pulp metallic assaying is preferred and should take precedence over standard fire assaying to give greater confidence in determining representative grades to composite intervals used in the resource estimation process.

# **16 DATA VERIFICATION**

# ALTO DATABASE VALIDATION

HCG and Kirkham Geosystems used a number of queries in MS Excel, the Mintec data validation routine, and 3-D visual inspection to validate the drill hole database. HCG and Kirkham Geosystems found and corrected a number of minor problems related to the assay and survey data.

# ALTO DATABASE VERIFICATION

HCG carried out a database verification program on the Alto diamond drill hole data related to the DAC Deposit resource estimate. HCG did not verify any of the Alto information related to other zones on the property. HCG found no significant errors. Hard copy assay certificates are available at Alto's Sudbury field office for the surface diamond drill holes.

HCG checked 6,139 diamond drilling assays with the hard copy assay certificates, representing the DAC Deposit area diamond drilling assays and found only a few errors. These errors were mostly related to not including replicate pulp assays and some were data entry typographic errors. HCG and Kirkham Geosystems also checked some of the header and survey records. Kirkham Geosystems entered the corrected values into Mintec and Microlynx software.

It is HCG's opinion that the DAC Deposit database is valid and acceptable for supporting resource estimation work.

## **HCG INDEPENDENT SAMPLING**

In August 2006, HCG conducted an independent geochemical program engaging Accurassay Laboratories of Thunder Bay to perform additional pulp metallic analyses on 55 zone composites retrieved from 11 drill holes completed in 2005 and 2006. This program was designed to support and confirm the resource estimation process by adding additional pulp metallic analyses for zone 2A and 2B composites used in the resource estimation.

Accurassay's Fire Assay / Pulp Metallic procedure is described as follows:

 Fire Assay / Pulp Metallics (metallics): Crushing of the entire sample to 90%
-8 mesh and using a Jones Riffle to split the sample to a one kilogram subsample. The entire sub-sample is pulverized to approximately 90% -150 mesh and subsequently sieved through a 150 mesh screen. The entire +150 portion is assayed along with two duplicate cuts of the -150 portion. Results are reported as a calculated weighted average of gold in the entire sub-sample.

The analysis is presented below using scatter plots.



<sup>16-2</sup>
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The line of regression plot shows exceptional precision of .99 suggesting that degree<sup>4</sup> of pulverization and sample split weights are contributing factors affecting the high degree of precision.



In addition, a comparison of the 1st 250 gram/-150 mesh pulp metallic split [independent lab] and the original 1st 30 gram/-10 mesh fire assay shows a precision of 0.92 illustrated by the regression line.

The independent lab [Accurassay laboratory] supports the Alto assay database. The independent lab also produce 2 duplicate assays split from the -150 mesh screen sieving which demonstrates that pulverizing to -150 mesh is essential to producing excellent precision and repeatability of results.

# **17 ADJACENT PROPERTIES**

The DAC Deposit is entirely on Alto's Despinassy property. There is no past production from exploration sites located along strike on adjacent properties with the Despinassy property.

# **18 MINERAL PROCESSING AND METALLURGICAL TESTING**

There is no information or data to report in this section.

# 19 MINERAL RESOURCES AND MINERAL RESERVES

HCG has estimated the DAC Deposit Mineral Resource using all of the historical diamond drilling conducted by Cameco from 1998 to 2001 and ALTO's Phase 1 and Phase 2 drilling data available up to December 31, 2006.

## 2005 / 2006 DAC DEPOSIT DATABASE

In November, 2005 HCG produced an in-house study for ALTO estimating the "POTENTIAL" Mineral Resources contained on the Despinassy Gold Project situated 75 km. northeast of Amos, Quebec. Kirkham Geosystems of Vancouver, B.C. was retained to perform block modelling geostatistics on the DAC DEPOSIT assay database. Based on this exercise, a comprehensive block model was built factoring in the inverse distance and kriged methods supported by grade contouring on cross-sections and inclined longitudinal sections. The methodology used for geostatistical modelling, graphical and digital presentations for this report was contributed by Garth Kirkham.

Historical data, reports and opinions from past Cameco drilling was verified by Mike Koziol, P.Geo. (Ontario) and Alto's Vice President of Exploration. Robert J. Tremblay, P.Geo. (Quebec), Consulting Geologist managed Alto's Phase 1 and Phase 2 drill programs in 2005 / 2006 and conducted a detailed examination of drill core from Cameco's past drilling which contributed to the geological interpretations that formed the basis of the HCG study. This report also recommended further in-fill drilling and commented on guidelines on QA /QC procedures required to upgrade the "potential resources" to the "inferred category" such that the reporting of the gold resources would be in compliance with NI 43-101 policy.

The Phase 2 drill program (5,106m), involving 19 holes has extended the area of gold mineralization within the DAC Deposit and confirms the continuity and grade within the dominant vein systems (Zones 2,3 and 4).

# ASSAY STATISTICS

The Despinassy Deposit resource estimate is supported by 30 drill holes arrayed on a grid layout on 11 drill fence sections from 317280E to 317580E, containing 2,274 assays.

The geological interpretation is based on 11 north-south cross-sections spaced at 25 metres apart from 317280E to 317580E and one 50m spaced section (317,280E to 317,580E) covering a strike length of 300 meters along the mineralized trend. Level plans spaced at 25 metres apart were used to check the geological interpretation. Computer drafted cross-sections showing mineral zone outlines were provided by ALTO. The section locations are shown on the surface drill plan in Figure 13-1.

The composite control table has 102 mineralized intersections that have zone codes related to the 2A, 2B, 3A, 4A and 5A zones and 2C, 3B and 5B sub-zones.[refer to Appendix 1] The resource assay statistics are summarized in Table 19-4.

### VERTICAL CROSS-SECTION METHOD

The geological interpretation was completed with assistance from ALTO personnel. ALTO provided computer drafted cross-sections on 25 m section lines with a preliminary interpretation of gold zone outlines and alteration envelopes. Most of the alteration intervals selected are related to moderate to intense alteration (alteration type, intensity and style), however, some weak alteration was included locally to preserve continuity. Intervals of alteration related to other potential sub-zones were also entered for some drill holes, however, more correlation work and drilling information is needed before these sub-zones are incorporated into the resource estimate (ie. sub-zones 1A, 1B, 2C, 3B, 4B and 5B). The paired gabbro units encapsulating the felsic intrusive assemblage were a key control to interpreting the location of the 2, 3, 4, and 5 zones.

A 2 g/t and 3 g/t Au cut-off grade and a 1.2 minimum true thickness were used to define composite control intervals. Some exceptions were made internally to preserve zone continuity. Zone identifiers were assigned to the composite control intervals as shown in Appendix A.

### **RESOURCE ESTIMATION PARAMETERS**

The geological interpretation was completed with assistance from ALTO personnel. ALTO provided digitized vertical cross-sections on 25 m section lines at a scale of 1;1,000. A preliminary interpretation of gold zone outlines and alteration envelopes appear to reflect the two main alteration events, generally related to the emplacement of the felsic porphyry dykes which was observed by Cameco and Alto geologists. The alteration envelopes associated with zones 2, 3 and 4 appear to be stratabound and laterally continuous in the deformation corridor controlled by their proximity to the paired quartz-bearing gabbro marker units identified on the property.

Approximately a **3** g/t Au cut-off grade and a **1.2 meter** true thickness were used to define composite control intervals. Some exceptions were made to preserve zone continuity. Zone identifiers were assigned to the composite control intervals for the block modelling exercise. Prior to proceeding with the resource modelling, composites of the zones were created to delineate the geologic regions to mask and constrain the modelling process.

The following sections detail the methods, processes and strategies employed in creating the revised resource estimate for the Despinassy Deposit. Tables 3-1 and 19-1 lists some conventions and abbreviations that are encountered throughout the resource estimation section of this report.

Abbreviation	Description
Au	Gold
g/t or gpt	Grams per Tonne (Gold Grade)
M	Meters
QA/QC	Quality Assurance / Quality
	Control
X, Y, Z	Cartesian Coordinates, also
	"Easting", "Northing", and
	"Elevation"
DDH	Diamond Drill Hole.
N, S, E, W	Cardinal points, North, South,
	East, and West, respectively, and
	combinations thereof.
CV	Coefficient of Variation.

Table 19-1: Report Conventions and Abbreviations

# CUT-OFF GRADE

HCG applied approximately a 3.0 g/t Au cut-off grade to define mineralized envelopes for the main zones. The 3.0 g/t Au cut-off grade ensures that all potentially economic mineralization is included within the block models.

The 3.0 g/t Au cut-off grade was generally effective in defining mineralization continuity. Some exceptions, however, were made in order to preserve zone continuity and zone thickness. HCG used a minimum true thickness of approximately 1.2 m to define mineralization envelopes.

The breakeven cut-off grade for shrinkage/Cut and Fill mining is 6.07 g/t Au based on preliminary cost data from the eastern Abitibi region of Quebec, a US\$530/oz gold price and 94% gold recovery as shown in Table 19-2.

### TABLE 19-2 PRELIMINARY CUT-OFF GRADE INPUT ASSUMPTIONS

Description	Assumption
Mining – Shrinkage/Cut & Fill	C\$90.00/t
Custom Milling & Processing	C\$15.00/t
G&A	C\$5.00/t
Gold price (US\$)	US\$530/oz
US\$ to CAN\$ Conversion Rate	1.13
Gold price (C\$)	C\$599 /oz
Gold recovery	94%

Alto Ventures Ltd. Despinassy Gold Project, Quebec

Shrinkage Breakeven cut-off grade:

 $[90.00+15.00+5.00]/[(599 \times 0.94)/31.103] = 6.07 \text{ g/t Au}$ 

Approximately 40% of operating costs are generally related to fixed costs and the remaining 60% are associated with variable costs. Consequently, 60% of operating costs could be used to estimate an incremental cut-off grade for material located near surface requiring underground development by ramp access.

Incremental Shrinkage cut-off grade: [0.6 x (90.00+15.00 + 5.00]/[(599 x 0.94)/31.103] = 3.64 g/t Au

The Despinassy Deposit drill hole gold zone composites were defined based on approximately a 3.0 g/t Au cut-off grade and a lower 2 g/t cut-off was used to define weaker mineralized trends where reasonable geologic continuity has been established by drilling for correlation purposes. A 4 g/t Au cut-off grade was used to define resource outlines for the  $ID^2$  block model to support the cross-sectional method calculations.

## **GOLD CUTTING LEVELS**

Erratic high grade assays can have a large and disproportionate influence in the estimation of the average grade of a gold deposit. On the Despinassy Project, A grade capping level was set at 75 g/t. Of a total of 6,324 assay records, only 1 sample was cut from 178 g/t to 75 g/t. Preliminary gravimetric analyses compare within acceptable limits due to the fine grain distribution of visual gold observed in core.

HCG recommends reviewing the gold cutting levels periodically when new data become available on future drilling programs.

# DENSITY DATA

A total of 49 determinations were selected from 8 drill holes coinciding with composite intervals used in the resource estimation process. A few SG determinations included boundary samples in alteration zones surrounding main veins. The Zone 2 veins had 39 determinations sufficient for preliminary resource calculations. HCG used a 2.76 tonnes/m<sup>3</sup> tonnage factor for the mineral resource estimate. HCG recommends that ALTO perform density tests on the entire Zone 2A and 2B composite intervals to be retrieved from 6 twinned wedge holes recommended in section 22.

And Ventures Ltd. Despinassy i Toject, wheneve				
Drill Hole Name	Zone	Number of		
		Samples		
DES00-32	2A,2B	14		
DES00-40	5A	5		
DES05-79	2A,2B,2C,4A	10		
DES06-85	2A,2B	8		
DES06-86	4A	2		
DES06-87	2A	2		
DES06-88	2A	3		
DES06-93	2A,2B	3		
Total	Weighted Avg.= 2.76	47		

## TABLE 19-3 2006 SPECIFIC DENSITY DATA

### Alto Ventures Ltd. Despinassy Project, Quebec

# **RESOURCE ESTIMATE METHODOLOGY**

#### **VERTICAL CROSS-SECTION METHOD**

HCG used gold mineralization outlines derived from composite assay intervals as a visual guide to draw resource lens outlines for each zone around intersections averaging greater than approximately 3 g/t Au. Some lower grade intersections ranging to 2 g/t Au were included to preserve zone continuity. Geologic structure and stratigraphic contacts are the key guides in joining the extremities of the intersections between holes and from section to section. Extrapolation distances between holes on the vertical sections varied depending on the gold based on the assumption that higher gold values are generally associated with stronger structures that have longer ranges of continuity. The drill hole density and spacing layout of holes on each section plane employed by CAMECO/ALTO is 50m. A systematic section spacing of 25m was also employed. Hence, area of mineral outlines is determined by half the distance between holes, averaging 25m on each side. The half distance rule is applied as well between sections with 12.5m width of section yielding a typical block width of 25m. The average block length is 46m based on 102

drill hole composite intervals used for the resource estimation. Mineral outlines involving isolated drill holes or off-section holes were trimmed at 25m.

The area of the mineral outline is the product of the block length and the "true thickness" of the drill hole intercept, centering the resource block. The block volume is the product of the block area times the block width. 25m block lengths were used to help maintain approximately a 25 m extrapolation distance in open areas for lenses classified as Inferred. A 50m section spacing exists between section 317,530E and 317,580E and block widths were weighted at 50m due to sufficient drill hole density establishing geologic continuity. A 50m section spacing also exists between section 317,280E and 317,330E with block widths set at 25m due to low density drilling. A weighting factor was also applied to block lengths involving assay composites >10 g/t. A block length of 25m was generally applied where high grade intercepts were isolated and not supported by neighbouring drill holes on the section plane as well as parallel sections on each side. If geologic continuity is established based on structure, alteration type, intensity and grade, then exceptions were made allowing block lengths up to 42.5m. The typical extrapolation dimensions of a resource block used to outline the "Inferred" zones was approximately 50m x 25m x 2m.

True thickness values were calculated graphically from the cross-sections taking into account drill hole trajectories, structural dip of mineral outline and core angle to bedding measurements. Average factors of .8 and .9 were applied to the drill hole composite control core length intervals. The average true thickness is 1.8m based on 102 drill hole composite intervals used for the resource estimation.

The tonnage for each gold zone was estimated by summing the product of the block volumes and  $2.76 \text{ t/m}^3$  tonnage factor.

The average grade for each gold zone was estimated by weighting the product of intersection block tonnages and block grades.

#### **BLOCK MODEL GEOSTATISTICAL METHOD**

The following outlines the process and parameters utilized in the Despinassy block modelling resource estimation to support the "Vertical Cross-section Method". Three methods were employed to validate the cross-sectional model and resources; Inverse Distance to the Second Power, Inverse Distance to the Third Power, and Nearest Neighbour Models. Kriging was not used as the geostatistical analysis and subsequent correlograms did not produce meaningful enough results to warrant the use of kriging.

Composite zones with a minimum width of 1.2 meters were utilized. Zone tops and bottoms triangulated and solids created. Zone solids were created for 1a, 1b, 2a, 2b, 2c, 3a, 3b, 4a, 4b, 5a, and 5b. However, there was only one composite top and bottom point for 3c and 5c therefore zone solids were not created for these zones. Numeric codes were assigned for each zone; 1a, 1b, 2a, 2b, 2c, 3a, 3b, 3c, 4a, 4b, 5a, 5b and 5c are assigned 11, 12, 21, 22, 23, 31, 32, 33, 41, 42, 51, 52, 53, respectively. Composites created at 2 meter intervals (to conform with HCG selected composite thicknesses-refer to appendix 1) within the solids, tails are retained. It was determined that the 2 meter composite lengths offered the best balance between supplying common support for samples and minimizing the smoothing of the grades in addition to reducing the effect of high grades to a small extent. With a 2 meter composite length, the model may be considered diluted.

Block modeling entailed using inverse distance to the 2<sup>nd</sup> and 3<sup>rd</sup> power, with search ellipsoid distance being 50m X 50m X 10m at an azimuth of 0 degrees and a dip of 60 degrees down from horizontal. A minimum of 2 composites and maximum of 16 composites were allowed for each block and at maximum 2 composites were allowed from an individual drill hole. The zone solids as defined above were utilized to constrain the interpolation.

Summary statistics as shown in Figure 19-1 for the assay gold database contains 6,215 Au values with a minimum value of 0.0 gpt Au. This analysis suggests that the gold distribution is well behaved, in comparison with other gold deposits. The average

overall Au grade (weighted by sample length) is 0.556 g/t, with a standard deviation of 3.14. However, there is a very high coefficient of variation<sup>1</sup> (CV) of 5.635 when considering all of the assays.

Figure 19-1 shows the histogram and basic statistics of all Au assays available weighted by assay interval, while Figure 19-2 shows the corresponding probability plot. Note that here is a distinctive "break" at 20 gpt which either suggests a second population or evidence of a high grade outlier population.



# FIGURE 19-1: HISTOGRAM AND BASIC STATISTICS OF ALL AU SAMPLES WEIGHTED BY ASSAY INTERVAL LENGTH.



## FIGURE 19-2: PROBABILITY PLOT OF ALL AU SAMPLES

# TOPOGRAPHY

As there was no topographic data from which to create a topographic surface, the most accurate method was to create topography from triangulating surveyed collar locations. Since the topographic relief is very limited and flat lying with a variation of 4 meters (300m to 304m), this preliminary surface is satisfactory for bounding the top of the model. Figure 19-3 shows the triangulated surface in plan view.



FIGURE 19-3: PLAN VIEW OF TRIANGULATED TOPOGRAPHY

# COMPUTERIZED GEOLOGIC BLOCK MODELING

Solids models were created using the grade contours in plan view along with incorporating the orientations of the mineralized zones. The top and bottom of each zone was triangulated and a corresponding solid created. The solids were then used to code the drill holes, create composites and constrain the block modelling process.

Therefore, for the purpose of the resource model, the solids were utilized to constrain the block model by matching assays to those within each of the corresponding vein solids coded into the block model. The orientation and ranges (distances) utilized for search ellipsoids used in the estimation process were derived from drill core observations and analysis of the distribution of gold values in the veins and within the alteration envelopes.



FIGURE 19-4: PERSPECTIVE SECTION VIEW OF ZONE SOLIDS WITH DRILLHOLES



FIGURE 19-5: PLAN VIEW OF SOLIDS WITH DRILLHOLES

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FIGURE 19-6: SECTIONAL VIEW OF ZONES - LOOKING WEST



#### FIGURE 19-7: PLAN VIEW OF ZONES

Once the triangulated models were created for the tops and bottoms of each zone ensuring that all drill holes were honoured, a 3D solid of each was created using the top and bottom, and then the surface were clipped against each other to ensure that there were no overlaps. Figures 19-4 to 19-7 show section outlines and solids of gold zones incorporated in the 3D block model.

Once the geologic solids were completed, they were prioritized according to geological controls for constraining the estimation process. The composite and model coding process is designed to set the priority to insure that all grade and volumes are accurately interpolated into the appropriate solid and insure that there is no overestimation of grade and tonnage or double counting within blocks that overlap geologic boundaries.

After the solids were completed, they were utilized to assign a numeric code into the intervals within the assay database so that they may be used for matching of geology

back into the assays and subsequent composite database. This process entails first assigning a numeric code to the assays depending on whether the intervals fall within the particular geologic solid or not.

The next step is to composite the drillholes at 2 meter intervals as discussed above. However, the zones for the individual geologic solids are matched from the drillhole to the corresponding composite interval. At the transition boundaries, the composites are truncated and the remaining tails retained.

A necessary, parallel process involves assigning numeric codes based on the geology solids, back to the block model as described above. This step insures that the geology codes within the grade model are matched with the corresponding codes within the composite database.

It is important that all intervals inside the solid receive a code and are not overwritten by the subsequent coding for those that do fall within a particular solid. Although care is taken when creating and checking the solids so that the boundaries match exactly, this process insures that there is no overlapping or "double-counting" of zones and volumes, thereby overestimating grade and tonnage.

In addition to the numeric codes, it is necessary to assign a percentage for the amount in which these geologic solids fall within the defined solids. This is primarily done when weighting the block model for the purpose of resource calculations.

It is at this point that both the composite database and the block model are prepared for setting up the interpolation and grade modeling process detailed in the following sections.

# COMPOSITING

In terms of selectivity and estimation quality, it was decided that a 2 meter composite provided the best compromise between number of composites available for estimation and a reasonable degree of dilution and regularization. Figure 19-8 and 9 shows the histogram and statistics for the composites created for each zone and the 2 meter composites, respectively.



# FIGURE 19-8: HISTOGRAM AND BASIC STATISTICS COMPOSITES WITHIN ZONES



# FIGURE 19-9: CUMULATIVE DISTRIBUTION PLOT AND STATISTICS OF ZONE COMPOSITES

# VARIOGRAPHY

Based on evidence that the nugget effect, as shown in the variography, is very low it appears that the necessity of cutting high grade values may not be necessary. However,

figure 19-9 illustrates that there may be a high grade population as shown by the break at 20 gpt which warrants investigation in future resource modelling exercises. In addition, the histogram and cumulative distribution plots for the 2m Au composites exhibit characteristics of the possible existence of a secondary population however the amount of data points does not support a detailed analysis at this time.

In preparation for the implementation of the grade estimation method, variograms for Au grades were run using the 2 m composites. The variography was run over the entire dataset and also limited to within the solids. The spatial continuity estimator chosen for this study was the correlogram, which has been shown in previous work to be more robust with respect to drift and data variability, allowing therefore for a better estimation of the observed continuity (Parker and Srivastava, 1988).

Correlograms and other variogram estimators were used to attempt to obtain a spatial variability model that could be used in the estimation of the resources. Variography was run in all directions for Au, and a model created. The software utilized for this exercise, called Sage 2001<sup>TM</sup> has a feature that calculates the optimal variogram range length for each of directional axis as a tool for directing variogram dimensions and orientation along with dimensions and orientation of the search ellipsoid.

Unfortunately the dataset is relatively small, particularly within the mineralized zones, and there are an insufficient number of pairs from which to derive meaningful results.

However, the best results illustrated by the correlogram in Figure 22 appear to be at approximately a 0 degree azimuth and -60 degree dip. Figure 23 shows that the trend of high grade mineralization does exhibit this orientation and that an ellipsoid of this orientation may be considered for future search strategy.

It was decided, primarily because of the limited amount of data, that the best approach would be to orient the search ellipsoid to match the orientation of the

mineralized zones. In addition, it was decided to utilize search ranges that roughly matched the drillhole spacing so as to maximize the influence of the samples within the individual zones and not utilize samples from outside the zones. In addition, a strategy of calculating the resources within ever decreasing radius of influence was employed in order to develop a rough classification and establish a degree of confidence for the overall estimation. Figure 23 and 24 illustrate the ellipsoid orientation and ranges utilized for the interpolation.

Figures 19-15 to 17 shows the summary of the correlogram model for the mineralized zones used to guide the estimate for the Despinassy deposit. For these figures, the rotation of the angles are given according to the convention used by GSLIB in Mintec MineSight<sup>TM</sup>, see the SAGE2001<sup>TM</sup> documentation for more details.

# **Calculate Sample Variograms**

**GSLIB** Rotation Conventions

Nugget ==> 0.037 C1 ==> 0.929 C2 ==> 0.035

First Structure -- Exponential with Practical Range

LH Rotation about the Z axis ==> 0		
RH Rotation about the X' axis ==> 0		
RH Rotation about the Y' axis ==> 0		
Range along the Z' axis ==> 2.0	Azimuth ==> 90	Dip ==> 90
Range along the Y' axis ==> 2.0	Azimuth ==> 360	Dip ==> 0
Range along the X' axis ==> 2.0	Azimuth ==> 90	Dip ==> 0

Second Structure -- Exponential with Practical Range

LH Rotation about the Z axis $=> 0$		
RH Rotation about the X' axis ==> 0		
RH Rotation about the Y' axis ==> 0		
Range along the Z axis ==> 70.6	Azimuth ==> 90	Dip ==> 90
Range along the X' axis ==> 70.6	Azimuth $==>90$	Dip ==> 0
Range along the Y' axis ==> 70.6	Azimuth ==> 360	Dip ==> 0
Range along the X' axis => 70.6 Range along the Y' axis => 70.6	$\begin{array}{l} \text{Azimuth} ==> 90 \\ \text{Azimuth} ==> 360 \end{array}$	Dip ==> 0 Dip ==> 0

Modeling Criteria

Minimum number pairs req'd ==> 100 Sample variogram points weighted by # pairs

#### FIGURE 19-10: SUMMARY OF AU DOWNHOLE CORRELOGRAM ANALYSIS

# **Calculate Sample Variograms**

**GSLIB** Rotation Conventions

Nugget ==> 0.100 C1 ==> 0.900

First Structure -- Exponential with Practical Range

LH Rotation about the Z $axis => -8$		
RH Rotation about the X' axis ==> -62		
RH Rotation about the Y' axis ==> 20		
Range along the Z' axis ==> 2.3	Azimuth ==> 14	Dip ==> 26
Range along the Y' axis ==> 62.7	Azimuth ==> 352	Dip ==> -62
Range along the X' axis ==> 24.0	Azimuth ==> 100	Dip ==> -9

Modeling Criteria

Minimum number pairs req'd ==> 100 Sample variogram points weighted by # pairs

### FIGURE 19-11: ILLUSTRATION OF RESULTS OF CORRELOGRAM





#### FIGURE 19-12: CORRELOGRAM – UNCUT

The ellipsoid direction for the estimation process was chosen to be 0 degrees azimuth and -60 degrees dip as this is the predominant direction of mineralization and the orientation of the zone solids. It should be noted that the orientation of the ellipsoid defines the dominant strike and dip directions of the gold mineralization. In addition, solids models created using various block models were utilized to constrain the variography in an effort to determine directionality of the mineralization. The mineralized solids with search ellipsoid are shown in Figures 19-13 through 15.



FIGURE 19-13: PLAN VIEW OF THE ANISOTROPY ELLIPSOID AND SOLID MINERALIZED MODELS

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FIGURE 19-14: PLAN VIEW OF THE ANISOTROPY ELLIPSOID AND SOLID MINERALIZED MODELS.



FIGURE 19-15: SECTIONAL VIEW OF THE ANISOTROPY ELLIPSOID AND MINERALIZED ZONE SOLID MODELS

# THE DESPINASSY BLOCK MODEL DEFINITION



FIGURE 19-16: BLOCK MODELS DEFINITION- EXTENTS

The Despinassy Resource Block Model used for estimating the resources for comparison purposes was defined according to the limits described in Figure 19-16.

The block size chosen was 10m x 2m x 10m oriented at east, north and elevation respectively, in an effort to discretely define the mineralized zones so as not to inject an inordinate amount of internal dilution, to somewhat reflect drill hole spacing available and to characterize the vein solids with a reasonable number of discrete points.

#### BLOCK MODEL

For the grade modelling process, inverse distance to the 2<sup>nd</sup> and 3<sup>rd</sup> power was chosen as the method of interpolation for the validation of the polygonal modelling results and resources. Correlograms were used in an attempt to obtain a spatial variability model that could be used in the estimation of the resources. Since the models obtained had, in all cases, very low nugget effects of less than 10% and the fact that the coefficient of variance for the dataset is also low, kriging may be considered if more data is available. However, as the data is relatively sparse and the number of pairs had to be reduced to derive any meaningful results, an inverse distance method was deemed more appropriate. This smaller search ellipsoid may be more representative of typical lens geometry dimensions in many shear hosted deposits.

The implication of the low relative nugget effect is that the spatial continuity for the material is good and that any resource estimate obtained within this will have high local accuracy.

The choice of inverse distance to the second and third power was based primarily on experience with deposits having local high grades and that it is a reasonable balance between localizing grade too much similar to nearest neighbour and determining an accurate contoured estimate within each zone.

#### COMPARISON OF POLYGONAL RESOURCE ESTIMATION TO INVERSE DISTANCE METHOD AND TO NEAREST NEIGHBOR ESTIMATION

The estimation process was used to estimate the comparison model because a better block-by-block estimation can be achieved by using more restrictions on those blocks that are closer to drill holes, and thus better informed. A three pass process was also used primarily to make sure adjacent zones and the blocks within those zones were estimated separately and the grade and volumes were separated for the resource reporting process. Block modeling entailed using inverse distance to the 2<sup>nd</sup> and 3<sup>rd</sup> power, with search ellipsoid distance being 50m X 50m X 10m at an azimuth of 0 degrees and a dip of 60 degrees down from horizontal. A minimum of 2 composites and maximum of 16 composites were allowed for each block and at maximum 2 composites were allowed from an individual drillhole. Figure 19-17 shows a section of the block model with the zones and figures 19-18 illustrates a plan view. Table 19-4 lists the comparison resources at varying cut-off grades. Note that these are only for comparison and confirmation of the polygonal estimates listed in the following section.

The polygonal resource estimate compares reasonably (i.e. within 10%) with the corresponding estimates calculated utilizing the inverse distance methods; Inverse Distance to the second and third powers. Of significance, the overall metal content coincides well with the polygonal method versus the block modelling methodologies. In addition, it is important to note that although the Nearest Neighbour model resulted in a difference in grade of between 10% and 20% at a 0.0 gpt Au cut-off, however the difference in grade at a 1.0 gpt Au cut-off is less than 1%. As is the case, with the DAC deposit that incorporates multiple veins with high grade intersections, this type of variation from nearest neighbour to inverse distance is within tolerances. However, this difference may point to the possibility that there may be an underestimation of the tonnes and grade at the higher cut-offs.

# TABLE 19-4: DAC DEPOSIT : BLOCK MODEL COMPARISON RESOURCEESTIMATION SUMMARY AND %COMPARISON TO POLYGONAL METHOD

Cut-off Grade	ID2			10	03	
	Tonnes	Grad	le	Т	onnes	Grade
1	878,	556	3.80	91	16,209	3.83
2	631,9	971	4.70	65	53,971	4.77
3	464,8	839	5.51	47	77,815	5.63
METHOD	Tonnes	Grade	Metal			
ID2	-4%	9%	5	%		
ID3	-8%	8%	0	%		

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FIGURE 19-17: SECTION VIEW OF BLOCK MODEL WITH ZONES 1A, 1B, 2A, 2B, 2C, 3A, 4A, 4B, 5A, 5B



FIGURE 19-18: PLAN VIEW OF BLOCK MODEL WITH ZONES 1A, 1B, 2A, 2B, 2C, 3A, 4A, 4B, 5A, 5B

## MINERAL RESOURCE CLASSIFICATION

The definitions for resource categories used in this report are consistent with those defined in "CIM Standards on Mineral Resources and Reserves - Definitions and Guidelines", the report of the CIM Standing Committee on Reserve Definitions dated October, 2000. In the CIM classification, a Mineral Resource is defined as "a concentration or occurrence of natural, solid, inorganic or fossilized organic material in or on the Earth's crust in such form and quantity and of such grade or quality that it has reasonable prospects for economic extraction". Resources are classified into Measured, Indicated and Inferred categories. A Mineral Reserve is defined as the "economically mineable part of a Measured or Indicated Mineral Resource demonstrated by at least a Preliminary Feasibility Study". Mineral Reserves are classified into Proven and Probable categories.

#### DAC DEPOSIT LENS GEOMETRY

The drilling density is sufficient to determine the lens geometry of the individual zones. The block model grade contouring views suggest that a high strain deformation zone exists between section lines 317280E and 317580E exhibiting "Z" type shear kinematics. Transposed shear fabrics resulting in attenuation of vein structures in a major "Z fold hinge" with maximum thickening and dilation occurring from section 317405E to 317505E. In this region, 2 parallel gold zones 2A and 2B exhibit good continuity in structural style and alteration intensity resulting in consistency in gold grade. The Zone 2A and 2b Au composite control values suggest that the "along strike" (Az 297° rake direction) range of continuity is ~12.5 m to 25 m based on the closer spaced 25m x 25 m drilling pattern in this region. The west and east lenses appear on a vertical longitudinal section (Figure 20-1) to have a strike length ranging from 100m to 150m with moderate to steep rakes ranging from 45° to 58°. The ranges of continuity in the plunge directions of the Zone 2A/2B lenses appear to be two times ranging up to 300 meters plunging along strike to the west.

HCG classified areas which are supported by drill holes that are spaced at approximately 20 m to 30 m apart on section with section spacing of 25m as "Indicated". Areas with wider spaced drilling, generally 30 m to 50 m apart, are classified as "Inferred". The Indicated resource lenses are supported by five to seven drill holes per section covering a vertical depth region from -25m to -375m below surface. HCG made a few exceptions for some Inferred lenses that are based on single drill holes in areas where the drilling was too wide spaced to include the intervening material but where HCG was confident with the overall zone correlation.

# MINERAL RESOURCE ESTIMATE

HCG has employed the "vertical cross-section method" supported by geostatistical 3D block modelling to estimate the gold resources within the DAC Deposit.

Detailed drilling on the Despinassy Project between sections 317,405E and 317,505E shows good continuity and is of sufficient density on 5 sections that the gold resource outlined in this region are classified as "Indicated".

At the 3.0 g/t Au cut-off grade, HCG estimates that the Indicated Mineral Resources of the DAC Deposit total 166,863 tonnes at an average grade of 6.88 g/t Au and contain 36,892 ounces of gold, cutting all high assays to 75 g/t Au. HCG estimates that the Inferred Mineral Resources total 444,753 tonnes at an average cut grade of 4.46 g/t Au and contain 63,839 ounces of gold (Table 19-5).

DAC DEPOSIT Classification	Zone	No. of Resource Blocks	TONNAGE Tonnes	CUT GRADE (Aucapped at 75 g/t) (g/t)	Contained Gold <sup>1</sup> (ozs Au)
Indicated	2A	10	59,484	6.97	13,328
Indicated <b>Total</b>	2B	17	107,379	6.83	23,564
Indicated		27	166,863	6.88	36,892
Inferred	2A	18	142,782	3.56	16,350

TABLE 19-5:	DAC DEPOSIT VERTICAL	CROSS-SECTION RESOURCE			
<b>ESTIMATION</b>	SUMMARY				
Inferred	2B	5	31,666	4.21	4,288
----------------	----	----	---------	------	--------
Inferred	2C	4	15,823	5.81	2,956
Inferred	ЗA	9	48,076	3.30	5,098
Inferred	3B	5	24,390	5.04	3,955
Inferred	4A	19	103,655	4.62	15,398
Inferred	5A	13	69,564	6.73	15,056
Inferred	5B	3	8,798	2.61	738
Total Inferred		76	444,753	4.46	63,839

#### Notes: DAC Deposit: Resource Estimation Parameters

- Indicated Resource: Sufficient continuity in geologic structure and consistent grade outlines for Zones 2A & 2B established from Section 317,405E to 317,505E using cut-off grade of 3g/t Au; Section spacing is 25m; Average True thickness is 2.1m; Weighted Average block length = 37m; Tonnage Factor applied = 2.76 g/m<sup>3</sup>
- Inferred Resource: Sufficient continuity in geologic vein structures to correlate main Zones 2A, 2B, 3A, 4A & 5A from Section 317,280E to 317,580E using cut-off grade of 2g/t Au, Erratic gold distribution in weaker vein structures combined with lower drill hole density affects sub-zones 2C, 3B and 5B; Section spacing is 25m and 50m; Average True thickness is 1.7m; Weighted Average block length = 42m; Tonnage Factor = 2.76 g/m<sup>3</sup>
- Assay composite intervals adjusted by factor of .8 and .9 to determine true thickness. A minimum true thickness cut-off of 1.2m to control composites.

# 20 OTHER RELEVANT DATA AND INFORMATION

### **EXPLORATION POTENTIAL**

#### DAC DEPOSIT

The DAC Deposit is open at depth and along strike:1) to the west of section 317380E at elevations between -100m and -200m; 2) to the west of section 317480E at elevations between -200m and -300m. There is good potential to increase the DAC Deposit Mineral Resource and to convert Inferred Mineral Resources to Indicated in Zones 2A and 2B stepping down-plunge to the west on the 2 lenses shown on Figure 20-1. In HCG's opinion, the DAC Deposit has good exploration potential and warrants further work.



FIGURE 20-1: TARGET ELLIPSOIDS FOR DAC DEPOSIT

### ADDITIONAL SURFACE EXPLORATION TARGETS

### DARLA ZONE

During the Phase 2 drill program, high grade gold mineralization was intercepted in drill hole DES06-91 returning 19.5 g/t over 2.1m at a depth of 115.1m. The three holes drilled on the Darla Zone tested a strike length of 50m and to a depth of ~65m in a similar geologic setting as the DAC Deposit (Figure 20-2).

The new Darla Zone has been discovered 1 km east of the DAC Deposit which confirms the potential for multiple lenses of high grade gold mineralization along the 6km strike length of the Despinassy Shear Zone. Based on a preliminary review of the Darla drilling results, generally on 50 m spaced sections, the Darla Zone has good exploration potential and warrants further work. This work should include geological interpretation and correlation work based on the current understanding of the DAC Deposit and HCG recommends more diamond drilling.



FIGURE 20-2: DARLA ZONE – EXPLORATION TARGETS

### **21 INTERPRETATION AND CONCLUSIONS**

### MINERAL RESOURCE ESTIMATE

The modelling of the Despinassy Gold resources using the vertical cross-section and inverse distance geostatistical method has been able to characterize the distribution of gold mineralization of the Despinassy Property. The block model which is constrained by the geologically selected assay composites, has mapped the combined influence of 2 major alteration envelopes hosting five plane parallel shear vein systems intimately associated with QFP intrusions. Preliminary trend analysis suggests the true direction of mineralization as shown by the variography and as evidenced by visual inspection of grade contours derived from the grade model created by the block modelling process, as shown in further sections, is 297 degrees azimuth and -58 degrees.

Based on the comparison of the polygonal model and the inverse distance block models against the nearest neighbour model, it appears that the grade and tonnage may be underestimated. In order to effectively create a geostatistical model based on ordinary kriging, more data is needed within the mineralized zones. In addition, as a result of the solids modelling, the deposit remains open along strike and down dip.

The drilling density is sufficient to determine the lens geometry of the individual zones. The block model grade contouring views suggest that a high strain deformation zone exists between section lines 317280E and 317580E exhibiting "Z" type shear kinematics. Transposed shear fabrics resulting in attenuation of vein structures in a major "Z fold hinge" with maximum thickening and dilation occurring from section 317405E to 317505E. In this region, 2 parallel gold zones 2A and 2B exhibit good continuity in structural style and alteration intensity resulting in consistency in gold grade. The Zone 2A and 2b Au composite control values suggest that the "along strike" (Az 297° rake direction) range of continuity is ~12.5 m to 25 m based on the closer spaced 25m x 25 m drilling pattern in this region. These lenses appear on inclined longitudinal sections to have a strike length ranging from 100m to 150m with moderate to steep rakes ranging

from  $45^{\circ}$  to  $58^{\circ}$ . The ranges of continuity in the plunge directions of the Zone 2B/2C lenses appear to be two times ranging up to 300 meters plunging along strike to the west.

The  $S_2$  deformation event seems to be important for gold enrichments to reach economic gold grades. Economic geologists working on site should record and categorize all shear kinematic indicators observed in core.

### **EXPLORATION POTENTIAL**

There is good potential to increase the preliminary Despinassy Deposit Mineral Resource and to upgrade a substantial portion of the "Inferred" gold mineral resources outlined to Indicated resource categories. In HCG's opinion, the Despinassy Gold Project has good exploration potential and warrants further work.

The potential to increase the Despinassy Deposit gold resource exists in the region between section 317270E and 317380E by targeting the two westerly plunging trends illustrated on the inclined longitudinal views. Zones 4A and 5B are also highly prospective and may be controlled by features not recognized yet. Deeper drilling is recommended to target these zones and determine if the trends outlined by the block model hold up.

### 22 RECOMMENDATIONS

The author recommends the following work:

 Continue drilling the DAC Deposit focusing on extensions of zones 2A and 2B and adjacent zones to increase the DAC Deposit mineral resource and upgrade extensions of zone 2A and 2B from inferred to indicated resource category. Delineation drilling includes 8 shallow tier, 10 mid tier and 4 deep tier holes totalling 4,200 m. Twin 6 holes by re-entering cased holes, set grout plug and wedge above Zone 2A, ream past wedge and re-core 60m in each hole to include DAC Deposit mineralized zones from Zone 2A to 3A (Figure 22-1: green circles). Perform pulp metallic gravimetric analysis on all composite intervals to increase confidence level of economic gold grade ranges.

Estimated Cost: \$851,000

2. Update the DAC Deposit 3D Block Model to support a preliminary underground exploration scoping study based on an underground narrow vein bulk sampling and test mining concept. Update the level plan interpretations at 25m level spacing. Determine minimum tonnage and grade guidelines for a ramp exploration and development scenario leading to a production start-up decision. Scoping Study should also address geotechnical parameters such as overburden depths (reflection seismic survey) and drainage hydrology, RQD factors and environmental baseline studies.

#### Estimated Cost: \$ 50,000

- 3. Update the DAC Deposit Mineral Resource estimates after the next phase of drilling is completed.
- 4. Conduct drilling programs on the Darla Zone.
  - 22-1

- 5. Integrate the master assay database with kinematic structural indicators, alteration type, alteration style, Mineralization type, % veining, % sulphides derived from drill logs for every assay included in the composite control intervals used in the resource estimation.
- Recommends that magnetic susceptibility measurements to be taken for major lithofacies with high priority given to characterizing the magnetic response of the paired gabbro marker beds.
- Recommends that Alto undertakes a geodetic survey to reference the 2001, 2005 and 2006 drill holes (DES00-52 to DES06-102) to the previous GPS control survey conducted in 2000.
- Recommends that the initial standard fire assay employ a 50 gram sub-sample taken from a 250 gram split from a sample which has been crushed and pulverized to -150 mesh.
- Recommends that Alto perform RQD measurements on all drill holes piercing Zones 2A, 2B, 3A, 4A at the -100m to -125m vertical elevations to support the scoping study mentioned in item 2 above.

### TABLE 22-1 PHASE 3 COST ESTIMATES FOR 5, 000 M PROGRAM

Diamond Drilling (22 NQ holes) 4,200 m x \$85/m	357,000
Wedging program: (twin 6 holes) 360 m x \$100/m	36,000
Wedging and Cementing Operations \$10,000/hole	60,000
Core shack, supplies, equipment rentals	12,000
Pulp Metallics: 1,500 samples x \$40/sample	60,000
Geologist + assistant 90 days x \$800/day	72,000
Travel, camp and meals	15,000
Grid refurbishment	5,000

Incidentals, land use payments, claim renewals	10,000
Report writing and filing	20,000
Contingencies (5%)	35,000
Sub-total	740 <u>,000</u>
Management Fee (Joint Venture Operator~15%)	111,000

**Phase 3 Total Estimated Cost** 

\$851,000



FIGURE 22-1 DELINEATION AND TWINNED WEDGE DRILL HOLES

### 23 SOURCES OF INFORMATION

Babin, D., Fournier, A. and Koziol, M., 2000, Cameco Gold Inc., Report on the Fall 1999 Diamond Drilling Program, Phase III, Despinassy Project, Despinassy Township, Quebec, NTS 32C/11, 32C/12, 32C/13 and 32C/14.

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Tremblay, R., 2005, Report on the 2005 Phase 1 Diamond Drilling Program; For Alto Ventures Ltd., Despinassy Project, Despinassy Township, Quebec,

# **24 SIGNATURE PAGE**

This report titled "Resource Estimation Report on the DAC Deposit, Despinassy Township, Val d'Or, Quebec, Prepared for Alto Ventures Ltd. and dated January 9, 2007 was prepared by and signed by the following authors:

Peter C. Huboched Signature: G 0 PETER C. HUBACHECK PRACTISING MEMBER 1059 NTARI W.A. HUBACHECK CONSULTANTS LTD. Dated at Mississauga, Ontario Peter C. Hubacheck, P.Geo. January 9, 2007 Professional Geologist

# **25 CERTIFICATES OF QUALIFICATIONS**

### PETER C. HUBACHECK

As the principal author of this report entitled "A Resource Estimation of the DAC Gold Deposit, Despinassy Twp., Val d'Or, Quebec, Prepared for Alto Ventures Ltd." (the NI43-101 Technical Report) and on behalf of Alto Ventures Ltd, I hereby make the following statements:

- A. My name is Peter Hubacheck and I am a Consulting Geologist, President of W. A. Hubacheck Consultants Ltd. (Hubacheck Consulting Geologists - HCG). My office address is located at my home residence at 2854 Constable Road, Mississauga, Ontario L5J 1W8. I am a Qualified Person for the purposes of National Instrument 43-101 of the Canadian Securities Administrators.
- B. I have received the following degrees and diplomas:
  - Mining Technologist 1974 Haileybury School of Mines and Technology, Haileybury, Ontario
  - B.A.Sc. (Geol. Eng.) 1977 South Dakota School of Mines and Technology, Rapid City, South Dakota
- C. I am registered as a Professional Geologist with the Association of Professional Geologists of Ontario (APGO #1059). I am also registered as a professional Geologist with the Association of Professional Geologists, Geophysicists and Engineers of Alberta (APEGGA #M33789). I am a Member of the Canadian Institute of Mining, Metallurgy and Petroleum, and the Prospectors and Developers Association of Canada.
- D. I am a Qualified Person for the purposes of National Instrument 43-101.
- E. I performed a field examination of the Despinassy Property and inspected selected drill corings from drill holes stored in Val d'Or, Quebec from August 23<sup>rd</sup> to August 25<sup>th</sup>, 2006.
- F. I am responsible for all sections of the technical report. I acknowledge the significant contributions of Garth Kirkham, P. Geo. pertaining to geostastistical resource modelling supporting sections 19, 20 and 22.
- G. I am not aware of any material fact or material change with respect to the subject matter of the Report, which is not reflected in the Report, the omission to disclose which makes the Report misleading.

- H. I am independent of Alto applying the tests set out in section 1.5 of National Instrument 43-101. I have no prior involvement with the property that is the subject of the Report.
- I. I have read National Instrument 43-101 and National Instrument 43-101F1 and this Report has been prepared in compliance with both of these Instruments.
- J. I consent to the filing of the Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of the Report.
- K. I have been practising as a geologist for approximately 29 years. My relevant experience for the purpose of the Report is:

▶ I supervised the geological management of the 2004 surface diamond drilling program for the Island Gold Project from November 25<sup>th</sup>, 2003 to May 31st, 2004. I also supervised the geological management of the 2004 underground diamond drilling program contracted on behalf of Patricia from June 1<sup>st</sup> to October 31, 2004. Co-authored a NI43-101 report submitted by Roscoe Postle and Associates with respect to "A Resource Estimation of the Island Gold Deposit" on behalf of Patricia Mining Corp. and Richmont Inc., November 2004.



Dated at Toronto, Ontario January 9, 2006 W.A. HUBACHECK CONSULTANTS LTD.. Peter C. Hubacheck, P.Geo. APGO P. Geol. APEGGA Consulting Geologist

# **26 APPENDIX 1**

### **ADDITIONAL TABLES**

DAC DEPOSIT: COMPOSITE GRADE CONTROL INTERVALS BY ZONE

DAC DEPOSIT: INDICATED RESOURCE ESTIMATION SUMMARY

DAC DEPOSIT: INFERRED RESOURCE ESTIMATION SUMMARY

DAC DEPUS		PUSITE			TERVALS DI ZUN		
	from	4.0	Zone	Zone		A	SECTION
	205.0	207.5	10	14		AU	400
DES0034	323.0	327.3 200.4	10	11	1.55	0.93	400
DES0037	200.4	200.1	10	11	1.55	0.74	300
DES0038	337.8	339.9	10	11	1.89	0.63	380
DES0039	231.7	233.0	1a	11	1.71	0.88	280
DES0040	312.85	315	Ta	11	1.93	0.88	280
DES0041	50.7	52.3	1a	11	1.44	1.2	530
DES0042	38.6	40.4	1a	11	1.62	0.57	480
DES0044	89.1	90.6	1a	11	1.35	0.74	530
DES0045	151.3	152.7	1a	11	1.26	1.89	430
DES0159	506.4	508.2	1a	11	1.62	0.81	280
DES0160	590.2	591.9	1a	11	1.53	2.59	480
DES05-64	109.9	112	1a	11	1.89	0.36	455
DES05-65	49.1	50.9	1a	11	1.62	2.07	455
DES05-66	92.3	93.8	1a	11	1.35	0.98	430
DES05-68	144.1	146.1	1a	11	1.8	0.73	455
DES05-79	91.2	93	1a	11	1.62	1	505
DES05-80	72.1	74.6	1a	11	2.25	1.1	380
DES05-81	292.5	294.5	1a	11	1.8	1.275	455
DES05-82	30.3	32.2	1a	11	1.71	1.04	280
DES05-83	528.2	530	1a	11	1.62	1.6	430
DES06-100	50.5	52	1a	11	1.5	0.59	405
DES06-101	63.5	64.7	1a	11	1.2	1.24	505
DES06-102	163.6	164.6	1a	11	1	1.89	430
DES06-84	112	113	1a	11	1	1.93	405
DES06-85	179.8	180.9	1a	11	1.1	1.08	405
DES06-88	143.7	145.2	1a	11	1.5	2.36	380
DES06-94	112.6	113.6	1a	11	1	1.86	580
DES06-95	56.5	57.5	1a	11	1	2.21	605
DES06-98	57.4	59	1a	11	1.6	3.89	455
DES9804	122.7	124.3	1a	11	1.44	1.11	405
DES9917	79.2	81.4	1a	11	1.98	0.44	280
DES9918	182.3	183.6	1a	11	1.17	0.77	480
DES05-67	114	115.2	1a	11	1.08	2.53	480
DES0034	337.9	339.5	1b	12	1.44	2.07	480
DES0037	208.6	210	1b	12	1.26	0.6	380
DES0038	343.8	345	1b	12	1.08	0.55	380
DES0039	241.5	243	1b	12	1.35	4.52	280
DES0040	317.25	318.75	1b	12	1.35	1.74	280
DES0041	52.3	55	1b	12	2.43	0.9	530
DES0042	44.2	45	1b	12	0.72	0.5	480
DES0044	100.5	103.7	1b	12	2.88	0.67	530
DES0045	156.8	159.6	1b	12	2.52	0.82	430
DES0159	520.6	521.4	1b	12	0.72	0.8	280
DES0160	595	597	1b	12	1.8	0.58	480
DES05-64	119.2	121.4	1b	12	1.98	0.43	455

### DAC DEPOSIT : COMPOSITE GRADE CONTROL INTERVALS BY ZONE

DES05-65	60.5	61.6	1b	12	0.99	0.37	455
DES05-67	116.9	118.9	1b	12	1.8	0.85	480
DES05-68	151.6	154.3	1b	12	2.43	0.53	455
DES05-79	104.6	106	1b	12	1.26	0.68	505
DES05-80	97	98.8	1b	12	1.62	4.37	380
DES05-81	299	301	1b	12	1.8	0.7	455
DES05-82	34.7	36.8	1b	12	1.89	1.09	280
DES06-101	79.8	81.2	1b	12	1.4	0.74	505
DES06-102	172.6	173.6	1b	12	1	2.35	430
DES06-96	212	213	1b	12	1	1.83	480
DES06-97	233	235	1b	12	1.8	2.98	330
DES06-98	61	62	1b	12	1	3.87	455
DES9804	126.3	127.9	1b	12	1.44	0.85	405
DES9917	89	90.7	1b	12	1.53	3.28	280
DES9918	184.6	185.8	1b	12	1.08	0.3	480
DES0031	62.5	64.2	2a	21	1.53	0.89	580
DES0032	159.9	163.9	2a	21	3.6	3.04	580
DES0033	302.9	304.6	2a	21	1.53	2.42	580
DES0034	366.75	368.4	2a	21	1.48	6.57	480
DES0037	233.4	235	2a	21	1 44	24	380
DES0038	347.7	349	2a	21	1 17	1 1	380
DES0039	261.4	262.9	2a	21	1.35	1.07	280
DES0040	349	350.7	2a	21	1.53	4.8	280
DES0041	71 9	74	2a 2a	21	1.89	9.03	530
DES0042	78.5	80	2a 2a	21	1.35	17	480
DES0043	52.5	54.2	2a 2a	21	1.53	4 59	430
DES0044	129.3	131	2a 2a	21	1.53	4.80	530
DES0045	178.8	180.6	2a 2a	21	1.55	0.63	430
DES0159	538.7	539.7	2a 2a	21	1	0.00	280
DES0160	631.6	633	2a 2a	21	1 26	9.6	480
DES05-64	156.5	158.4	2a 2a	21	1.20	4 37	455
DES05-65	Q1 7	94.2	2a 2a	21	2 25	0.56	455
DES05-66	120.2	122 1	20	21	2.25	5.07	430
DES05-67	165.5	167.6	2a 22	21	2.32	J.97 4 72	430
DES05-68	180.2	107.0	2a 22	21	1.05	4.72	400
DES05-00	130.6	132.1	2a 22	21	2.25	2.05	400 505
DES05-79	111 7	112.1	2a 20	21	2.25	2.60	200
DES05-80	222.7	325.8	2a 22	21	1.20	2.09	455
DES05-82	JZJ.1 17	18.2	2a 22	21	1.09	4.10	280
DES05-82	47 570 6	40.Z	2a 22	21	1.20	1.70	200 430
DES05-65	049.0	05.0	2a 20	21	1.2	1.9	430
DES06-100	94.9 104 7	90.9 106 7	2a 2a	21	1 0	1.40 5.00	405 505
DES06-101	104.7	100.7	2a 2a	21	1.8	5.09	303
DES06-102	193.0	194.0	2a 2o	21	1 0	1.70	430
DES06-84	160.9	162.9	2a 2a	21	1.8	3.71	405
DES06-85	214	210.0	2a 2a	21	2.20	4.27	405
	231.0 105.5	239.2	∠a 2-	∠1 04	1.44	0.C	230
	195.5	190.5	∠a 2-	∠1 04		0.83	380
DESU0-93	228.3	231.3	∠a	21	2.7	5.17	355
DES06-94	177.8	180.8	za	21	2.7	1.79	580
DES06-96	254.4	256.4	2a	21	1.8	4.205	480

DES06-97	275.8	277.8	2a	21	1.8	1.46	330
DES06-99	223.6	224.6	2a	21	1	1.82	330
DES9804	148.6	150.2	2a	21	1.44	0.32	280
DES9917	118.8	121.9	2a	21	2.79	23.98	480
DES9918	221	222.3	2a	21	1.2	4.72	480
DES0032	163.9	169.2	2b	22	4.77	4.68	580
DES0034	371	373	2b	22	1.8	0.6	480
DES0037	238.3	240.1	2b	22	1.62	0.86	380
DES0038	372	373.2	2b	22	1.2	1.8	380
DES0039	283	284.5	2b	22	1.35	6.65	280
DES0040	359.9	361.3	2b	22	1.26	0.59	280
DES0042	90.4	91.8	2b	22	1.26	2.13	480
DES0043	76	77.5	2b	22	1.35	4.8	430
DES0045	190.6	197.5	2b	22	6.21	6.56	430
DES0159	555.3	557.05	2b	22	1.58	0.24	280
DES0160	639	641.2	2b	22	1.76	4.25	480
DES05-64	161.8	163.7	2b	22	1.71	16.36	455
DES05-65	99.3	101.5	2b	22	1.98	3.02	455
DES05-66	142.2	143.6	2b	22	1.26	8.31	430
DES05-67	167.6	170.9	2b	22	2.97	9.28	480
DES05-68	206.4	207.9	2b	22	1.35	1.7	455
DES05-79	142	146	2b	22	3.6	4.55	505
DES05-81	334.8	337.5	2b	22	2.43	7.18	455
DES05-83	559.3	561.1	_≈ 2b	22	1.62	1.21	430
DES06-100	107.9	109.6	_≈ 2b	22	1.53	3.03	405
DES06-101	111	114.5	_≈ 2b	22	3.15	9.19	505
DES06-102	210.4	211.0	2b	22	1	0.10	430
DES06-84	168.2	169.4	2b 2h	22	12	1.39	405
DES06-85	219.8	223.9	2b 2h	22	3.69	19.18	405
DES06-88	206.6	208.1	2b	22	1.5	0.90	380
DES06-93	240.2	241.2	2b 2h	22	1	1 40	355
DES06-95	132.2	134.2	_≂ 2h	22	1.8	3.07	605
DES06-96	273.7	275.7	2b	22	1.8	3.57	480
DES06-97	294.8	295.3	2b 2b	22	0.5	1 21	330
DES06-98	114.6	116.6	20 2h	22	1.8	7 38	455
DES06-99	242.5	243.7	20 2h	22	1.0	4 18	330
DES0017	1275	120.1	26 2h	22	1 11	10.61	480
DES0018	225 /	20.1	20 2h	22	1.44	2.2	480
S-24	106.6	108 12	20 2h	22	1.44	2.2	380
DES0032	167.4	169.72	20	23	1.62	3.01	580
DES0034	281.3	382.8	20	23	1.02	2.74	480
DES0037	267 4	268.8	20	23	1.00	0.08	380
DES0037	207.4	200.0	20	20	1.20	0.90	200
DES0038	06.6	00.0	20	20	0.9	0.7	490
DES0042	90.0	90 92 5	20	20	1.20	2.02	400
DES0045	200.7	02.0	20	20	1.17	3.03	430
DES0043	209.1 570.1	211.J 572.0	20	20 22	1.02	2.0 0.45	430
DES0109	51Z.1	013.0 646.9	20	∠3 22	1.03	0.45	∠öU 490
	040.3 176 F	040.0 177 F	20	∠3 22	1.30	0.7	40U 455
DESUS-64	1/0.5	1/1.5	∠C 2-	∠3 00	1	4.84	400
DE202-02	103.3	104.5	∠C	23	1.2	Z./b	455

DES05-66	147.4	148.6	2c	23	1.08	1.45	430
DES05-67	178	179.4	2c	23	1.26	0.63	480
DES05-80	127.3	129	2c	23	1.53	0.54	380
DES05-81	347.3	348.7	2c	23	1.26	1.4	455
DES05-82	55.6	57	2c	23	1.26	0.6	280
DES05-83	576.4	578	2c	23	1.44	0.9	430
DES06-100	127.4	128.4	2c	23	1	1.71	405
DES06-102	218.5	220.5	2c	23	1.80	2.26	430
DES06-84	179.9	180.6	2c	23	0.7	0.62	405
DES06-85	233	235.3	2c	23	2.07	2.06	405
DES06-96	280.7	281.7	2c	23	1	1.46	480
DES9804	168.7	170.4	2c	23	1.53	1.4	280
DES9917	134.8	137.1	2c	23	2	18.49	480
DES9918	235.6	237.6	2c	23	1.8	0.74	480
DES0031	117.6	118.9	3a	31	1.17	0.59	580
DES0032	230.8	232.1	3a	31	1.17	0.67	580
DES0033	380.7	382.7	3a	31	1.8	0.5	580
DES0034	407.1	409.3	3a	31	1.98	0.65	480
DES0037	278.9	280.8	3a	31	1.71	0.57	380
DES0038	440.3	441.7	3a	31	1.26	4.05	380
DES0039	322.6	324	3a	31	1.26	2	280
DES0040	398.8	400.4	3a	31	1.44	0.84	280
DES0041	124.4	125.4	3a	31	0.9	0.6	530
DES0042	116	117.3	3a	31	1.17	1.23	480
DES0043	106	107.2	3a	31	1.2	1.23	430
DES0044	177	179	3a	31	1.8	0.46	530
DES0045	232.5	234.1	3a	31	1.44	5.36	430
DES0159	585	587	3a	31	1.8	0.95	280
DES0160	670.3	672	3a	31	1.36	1.46	480
DES05-64	191.5	193.8	3a	31	2	2.99	455
DES05-65	128.3	129.5	3a	31	1.08	1.87	430
DES05-66	173.5	175.1	3a	31	1.44	0.93	430
DES05-67	192.7	195.5	3a	31	2.52	2.31	480
DES05-68	239.5	240.9	3a	31	1.26	2.03	455
DES05-79	164.7	166.1	3a	31	1.26	1.3	505
DES05-81	384.3	386.1	3a	31	1.62	3.81	430
DES05-83	611	611.7	3a	31	0.63	0	405
DES06-101	142.8	143.8	3a	31	1	3.28	505
DES06-102	245.3	246.1	3a	31	0.8	1.56	430
DES06-84	238.9	239.9	3a	31	1	0.84	405
DES06-85	295.2	296.4	3a	31	12	1 70	405
DES06-86	56.8	58.8	32	31	1.8	2.26	330
DES06-96	309.7	310.7	32	31	1	8 11	480
DES06-99	292	293	32	31	1	0.83	330
DES9917	159.6	162	39	31	2 16	0.67	480
DES9918	265.2	267	39	31	1.62	0.82	480
DES0032	200.2	249.1	3h	32	1 53	1 1	580
DES0034	Δ17	418 5	30 3h	32	1.35	0.7	480
DES0034	282.5	282.2	30 3h	32	0.7	0.7	380
DES0038	202.0 451 3	452 7	3h	32	1.26	3 17	380
	-01.0	102.1	00	02	1.20	0.17	000

DES0040	416	417.2	3b	32	1.08	0.7	280
DES0041	130.5	132	3b	32	1.35	2.09	530
DES0042	123	124	3b	32	1	2.9	480
DES0043	129.4	131.4	3b	32	1.8	0.64	430
DES0044	183	184.6	3b	32	1.44	1.4	530
DES0045	239.8	243	3b	32	2.88	3.95	430
DES0159	590.4	592	3b	32	1.44	1.1	280
DES0160	676.9	679	3b	32	1.68	14.12	480
DES05-64	195.8	198.7	3b	32	1.8	2.19	455
DES05-65	134.7	136.8	3b	32	1.89	9.72	430
DES05-66	177.6	178.3	3b	32	0.63	1	430
DES05-67	201.8	203.1	3b	32	1.3	0.9	480
DES05-68	245.8	248	3b	32	1.98	1.1	455
DES05-79	179.4	180.9	3b	32	1.35	0.9	505
DES05-81	394	395.5	3b	32	1.35	3.95	430
DES06-98	149.5	151.5	3b	32	1.8	4.52	455
DES9804	198.9	200	3b	32	1.1	1.1	280
DES9917	166.6	167.9	3b	32	1.17	0.5	480
DES9918	276.5	278.4	3b	32	1 71	0.86	480
DES0034	423.7	424.6	30	33	0.81	0.5	480
DES0037	321.3	322.1	30	33	0.72	0.76	380
DES0031	137.3	138.4	4a	41	1 1	2 65	580
DES0032	250.0	252.5	70 /2	41 /1	1 1/	0.64	580
DES0032	230.3 /10.6	120 8	-10 /10	41	1.44	0.04	580
DES0034	/37	420.0	-10 /10	41	1.00	0.9	180
DES0034	325 1	326.7	4a 10	41	1.20	2.63	380
DES0037	JZJ.4	J20.7	4a 4a	41	1.2	2.03	200
DES0030	404.4	400.7	4a 4a	41	1.2	1.01	200
DES0039	300.7 122.2	333 125 5	4a 4a	41	2 1 09	3.04	200
DES0040	433.3	435.5	4a 4a	41	1.90	1.00	200
DES0041	141	142.4	4a 4a	41	1.20	1.11	230
DES0042	141.2	143	4a 4a	41	1.02	2.10	480
DES0043	100.2	100.0	4a	41	2.10	11.94	430
DES0044	197.6	198.55	4a	41	0.85	1	530
DES0045	270.6	212.2	4a	41	1.44	0.9	430
DES0159	505	606.4	4a	41	1.26	6.38	280
DESUIGU	705.6	707.1	4a	41	1.35	1	480
DES05-64	217	218.8	4a	41	1.62	3.74	455
DES05-65	163.5	165.3	4a	41	1.62	0.8	430
DES05-66	211.1	212.7	4a	41	1.44	1.1	430
DES05-67	235.2	236.9	4a	41	1.53	1.01	455
DES05-68	274.9	276.4	4a	41	1.35	1.7	455
DES05-79	197.5	199	4a	41	1.35	4.6	505
DES05-80	177.2	178.7	4a	41	1.35	0.4	380
DES05-81	399.7	401.8	4a	41	1.89	1.3	430
DES05-82	135.6	137.4	4a	41	1.62	8.94	280
DES05-83	631.5	632.7	4a	41	1.08	1.2	405
DES06-100	161.6	163.2	4a	41	1.44	17.34	405
DES06-101	169	170	4a	41	1	1.00	505
DES06-102	281.1	282.8	4a	41	1.36	8.1	430
DES06-86	80.3	82.3	4a	41	1.8	3.23	330

DES06-88	262	263.5	4a	41	1.35	3.49	380
DES06-93	326.6	328.1	4a	41	1.35	7.25	355
DES06-96	344.2	345.4	4a	41	1.2	1.95	480
DES06-97	357	359	4a	41	1.8	1.20	330
DES06-98	174	176	4a	41	1.8	2.49	455
DES06-99	311.6	313.1	4a	41	1.35	9.29	330
DES9804	236.7	238.5	4a	41	1.62	2.64	280
DES9917	180.1	182.2	4a	41	1.89	1.95	480
DES9918	298.8	300.5	4a	41	1.53	11.77	480
DES0031	151.8	153.2	4b	42	1.26	1.2	580
DES0032	266.1	268.2	4b	42	1.89	0.35	580
DES0034	441.75	443.55	4b	42	1.62	0.63	480
DES0041	150	152.6	4b	42	2.34	0.5	530
DES0042	149	151	4b	42	1.8	2.2	480
DES0044	205.5	206.7	4b	42	1.08	1.8	530
DES0045	277.1	278.9	4b	42	1.62	2.54	430
DES0159	624.4	625.7	4b	42	1.17	2.95	280
DES0160	714.8	717	4b	42	1.76	0.43	480
DES05-64	222.9	223.9	4b	42	1	2.86	455
DES05-65	172.3	173.6	4b	42	1.17	0.78	430
DES05-66	216	216.5	4b	42	0.5	0.7	430
DES05-68	280	281.5	4b	42	1.35	1.4	455
DES05-79	202	203.7	4b	42	1.53	0.91	505
DES05-80	196.8	198.3	4b	42	1.35	1.2	380
DES05-81	425.3	426.8	4b	42	1.35	1.1	430
DES05-83	650.3	651.9	4b	42	1.44	5.51	405
DES06-102	307.3	308.3	4b	42	1	2.48	430
DES06-88	276	278.5	4b	42	2.25	3.12	380
DES06-98	185.6	186.6	4b	42	1	1.84	455
DES9917	193.8	195.7	4b	42	1.71	0.63	480
DES9918	316.1	317	4b	42	0.9	0.3	480
DES0031	194	195	5a	51	0.9	0.5	580
DES0032	319	321.2	5a	51	1.98	0.66	580
DES0033	473 1	474.6	5a	51	1.35	27	580
DES0034	489.6	490.9	5a	51	1 17	1.65	480
DES0037	341	342.1	5a	51	1	0.2	380
DES0040	499	501.2	5a	51	1.98	8 49	280
DES0041	187.8	189.3	5a	51	1.35	3 43	530
DES0045	305.1	306.6	5a	51	1.35	4 08	430
DES0159	692.2	693.3	5a	51	1 1	0.7	280
DES0160	728.6	730.8	5a	51	1 76	1 19	480
DES05-64	267.1	269	5a	51	1.70	5 37	455
DES05-65	198	199.5	5a	51	1 35	3 92	430
DES05-66	280.1	281.5	5a 5a	51	1.35	5.32	405
DES05-67	200.1	201.3	5a 5a	51	1.20	J.11	405
DES05-68	320.0	272.0	5a 5a	51	2.96	14 61	455
DES05-00	J23.3 227.2	238 5	5a 5a	51	2.30 1 AQ	1 25	480
DES05-19	201.0	230.3	5a 5a	51	2.00	3 72	-100 280
DES05-80	200.1 167 7	200. I 158 0	5a 5a	51	2.7 1.08	0.28	430
	407.7	400.9	5a 5a	51	1.00	0.00	400
DE000-02	1//	0.0	Ja	51	1.55	0.13	200

DES05-83	659	661.1	5a	51	1.89	0.59	405
DES06-100	241.2	242.2	5a	51	1	2.17	405
DES06-84	309	309.5	5a	51	0.5	3.12	405
DES06-85	385.5	386.6	5a	51	1.1	2.77	405
DES06-86	131.2	131.7	5a	51	0.5	2.59	330
DES06-88	302.8	304.6	5a	51	1.62	6.94	380
DES9804	268.6	270	5a	51	1.26	2	280
DES9917	234.2	236.3	5a	51	1.89	1.76	480
DES9918	350.7	351.3	5a	51	0.6	0.6	480
DES0032	325	326.3	5b	52	1.17	0.27	580
DES0033	492.9	494.2	5b	52	1.20	3	580
DES0034	497.15	498.4	5b	52	1.125	1.4	480
DES0037	360.8	361.8	5b	52	0.9	0.5	380
DES0041	198.2	199.5	5b	52	1.2	4.15	530
DES0160	733.5	737.4	5b	52	1.44	5.83	480
DES05-64	278.5	279.7	5b	52	1.08	1.76	455
DES05-66	286.6	288	5b	52	1.26	1	405
DES05-79	241.1	242.3	5b	52	1.08	1.55	480
DES05-82	204.9	206.4	5b	52	1.35	1.75	280
DES06-87	374	375	5b	52	1	2.52	530
DES9918	360.6	362.4	5b	52	1.62	1.3	480
DES05-82	209.9	211.3	5c	53	1.26	1.3	280

DDH Secti Spacing	BLOCK	sc	TONNES (t)	AU GRADE g/t	Au x tonnes (g/t x t)	Block Grade(g/t)
25	1710	2.76	4720	4.37	20625	
25	1870	2.76	5161	2.05	10580	
25	3402	2.76	9390	4.16	39060	
25	2058	2.76	5679	23.98	136183	
25	2268	2.76	6260	4.72	29555	
25	1680	2.76	4637	4.72	21886	
25	2405	2.76	6638	6.57	43610	
25	2925	2.76	8073	4.21	33947	
25	1125	2.76	3105	5.09	15804	
25	2109	2.76	5822	10.87	63284	
	ZONE 2A TO	NNAGE=	59484 t	seuuo	414,535	6.97
25	1989	2.76	5490	3.03	16645	
25	1470	2.76	4057	1.39	5640	
25	2306	2.76	6365	19.18	122079	
25	1688	2.76	4658	4.8	22356	
25	1859	2.76	5129	8.31	42626	
25	4580	2.76	12640	6.56	82921	
25	1733	2.76	4782	3.02	14441	
25	1125	2.76	3105	7.38	22915	
25	1817	2.76	5015	16.36	82038	
25	2312	2.76	6381	1.7	10847	
25	4313	2.76	11905	7.18	85475	
25	1062	2.76	2931	10.61	31099	
25	2190	2.76	6045	9.28	56098	
25	2194	2.76	6055	2.74	16590	
25	2925	2.76	8073	3.57	28821	
25	1969	2.76	5434	9.19	49950	
25	3375	2.76	9315	4.55	42383	
	ZONE 2B TO	NNAGE=	107,379 t	onnes	732,923	6.83
	ZONE 2A/2B	TONNAGE=	166,863 t	onnes	1,147,458	
	DAC Weight	ed Avg.Gr=	6.88 9	aft.		
				Cone 2A Troy Oz.	13,328	
			N	Cone 2B Troy Oz.	23,564	
				<b>TOTAL Troy Oz.</b>	36,892	

CTION	HOLE-ID	Zone No	from	to	core length	truethick(TT
317455	DES05-64	zone 2a	156.5	158.4	1.9	1.71
317455	DES05-68	zone 2a	189.2	190.3	11	1.1
317455	DES05-81	zone 2a	323.7	325.8	2.1	1.89
317480	DES9917	zone 2a	118.8	121.9	3.1	2.79
317480	DES05-67	zone 2a	165.5	167.6	2.1	1.89
317480	DES9918	zone 2a	221	222.3	1.3	1.2
317480	<b>DES0034</b>	zone 2a	366.75	368.4	1.6	1.48
317480	DES06-96	zone 2a	254.4	256.4	2.0	1.8
317505	DES06-101	zone 2a	104.7	106.7	2.0	1.8
317505	DES05-79	zone 2a	130.6	133.1	2.5	2.25
317405	DES06-100	zone 2b	107.9	109.6	1.7	1.5
317405	DES06-84	zone 2b	168.2	169.4	1.2	1.2
317405	DES06-85	zone 2b	219.8	223.9	4.1	3.7
317430	<b>DES0043</b>	zone 2b	76	77.5	1.5	1.4
317430	DES05-66	zone 2b	142.2	143.6	1.4	1.3
317430	<b>DES0045</b>	zone 2b	190.6	197.5	6.9	6.2
317455	DES05-65	zone 2b	98.6	100.1	1.5	2.0
317455	DES06-98	zone 2b	114.6	116.6	2.0	1.8
317455	DES05-64	zone 2b	161.8	163.7	1.9	1.7
317455	DES05-68	zone 2b	206.4	207.9	1.5	1.4
317455	DES05-81	zone 2b	334.8	337.5	2.7	2.4
317480	DES9917	zone 2b	127.5	129.1	1.6	1.4
317480	DES05-67	zone 2b	167.6	170.9	3.3	3.0
317480	<b>DES0034</b>	zone 2b	381.3	382.8	1.5	1.4
317480	DES06-96	zone 2b	273.7	275.7	2.0	1.8
317505	DES06-101	zone 2b	111	114.5	3.5	3.2
317505	DES05-79	zone 2b	142	146	4.0	3.6
						t

11000 <t< th=""><th>ECTION HOLE-ID</th><th>Zone No</th><th>from</th><th>ę</th><th>core longth</th><th>truothick tt (m)</th><th>DDH Block Length</th><th>Area</th><th>( DDH Secti Spacing</th><th>Block Volumo</th><th>SG</th><th>TONNES (I)</th><th>Au Grado oft</th><th>Au x tonnes (gf x t)</th><th>Block Grade(glt)</th></t<>	ECTION HOLE-ID	Zone No	from	ę	core longth	truothick tt (m)	DDH Block Length	Area	( DDH Secti Spacing	Block Volumo	SG	TONNES (I)	Au Grado oft	Au x tonnes (gf x t)	Block Grade(glt)
17100 DEGROM 2003 21 210 200 21 210 <th< td=""><td>317280 DES05-82</td><td>zone 2a</td><td>47</td><td>48.2</td><td>12</td><td>1.20</td><td>So</td><td>60</td><td>25</td><td>1500</td><td>2.76</td><td>4540</td><td>1.70</td><td>7038</td><td></td></th<>	317280 DES05-82	zone 2a	47	48.2	12	1.20	So	60	25	1500	2.76	4540	1.70	7038	
11000050606 200 21 10 20 20	317280 DES0039	zone 2a	261.4	262.9	1.5	1,35	69	8	25	2329	2.76	6427	1.07	1189	
113000000000 20000 2100 110 210 21000000000 200000 20000 20000	317280 DES0040	Z0ne 2a	349	350.7	17	1.53	3	106	25	2639	2.76	7284	4.8	34965	
11330 DES(666) 2006 216 10 1 50 256 216 10 1 50 517 600 517 600 517 600 517 600 517 600 517 600 517 600 517 600 517 600 517 600 517 600 517 600 517 500 500 517 500 500 517 500 500 517 500 500 517 500 500 517 500 500 517 500 500 517 500 500 517 500 500 517 500 500 517 500	317330 DES06-97	zone 2a	275.8	277.8	2.0	1.8	So	8	25	2250	2.76	6210	1,46	9054	
11130 DES0065 2006 213 310 216 310	317330 DES06-99	Z076 28	223.6	224.6	1.0	-	20	8	25	1250	2.76	3450	1.82	6262	
113301CESS063 1111 1131 114 1131 114 1131 114 1131 114 1131 114 1131 1141 1131 1141 1131	317355 DES06.93	zone 2a	228.3	231.3	3.0	2.7	50	135	25	3375	2.76	8015	517	48190	
11301CESONG 234 235 144 41 35 344 24 317 257   11301CESONG 2002 24 <t< td=""><td>317380 DES05-80</td><td>zone 2a</td><td>111.7</td><td>113.1</td><td>41</td><td>1.26</td><td>20</td><td>3</td><td>25</td><td>1575</td><td>2.76</td><td>4347</td><td>2.69</td><td>11630</td><td></td></t<>	317380 DES05-80	zone 2a	111.7	113.1	41	1.26	20	3	25	1575	2.76	4347	2.69	11630	
J114(ISCER066) mode 10	317380 DES0037	zone 2a	233.4	235	1.6	1.44	4	8	25	1476	2.76	4074	2.4	1118	
1114105 500 131 216	317405 DES06.84	zone 2a	160.9	162.9	2.0	1.8	49	88	25	2205	2.76	6086	371	22578	
113010ES060 xmm <th< td=""><td>317405 DES06-85</td><td>Zone 2a</td><td>214</td><td>216.5</td><td>2.5</td><td>2.25</td><td>34.5</td><td>82</td><td>25</td><td>191</td><td>2.76</td><td>5356</td><td>4.27</td><td>22881</td><td></td></th<>	317405 DES06-85	Zone 2a	214	216.5	2.5	2.25	34.5	82	25	191	2.76	5356	4.27	22881	
317340 EBS166 xme3 103 113 2 2 3	317430 DES0043	Z0ne 2a	525	525	1.7	1.53	20	H	25	1913	2.76	5279	4 59	24228	
17:500 E60041 xme3 713 7 1	317430 DES05-66	zone 2a	130.3	133.1	2.8	2.52	59	149	25	1112	2.76	10259	263	61246	
31750 DESI044 2002 313 311 110 100 25 254 276 669 469 310   31750 DESI045 20023 103 217 10 200 201	317530 DES0041	Z006 23	21.9	77	2.1	1.80	45.5	8	25	2150	2.76	5904	9.03	\$3572	
177500 DESNER 2005 2014 0.0 0.0 0.000 <	317530 DES0044	Z096 23	129.3	12	1.7	1.53	88	101	25	2524	2.76	8969	4 89	34100	
17580 ES0042 5004 (3) 10 20 201 (4) 100 (4) 400 (4) 400 (4)   17580 ES0043 5006 (3) 1178 (4) 118 (4) 118	317530 DES06-87	Z006 28	237.6	239.2	1.6	1.44	8	8	25	2448	2.76	8278	5.6	38039	
317500 ES0646 7000 ES0646 7176 (0) 9100 ES070 (0) 2010 E 3100 (0) 217 (0) 210 (0) <	317580 DES0032	Z0ne 2a	159.9	1639	40	3.6	29.5	106	50	\$310	2.76	14656	3.04	44589	
WTS00 DES0103 Zme3 30(2) 3(46 1/70 1/5	317580 DES06-94	zone 2a	177.8	180.8	3.00	2.7	19	165	20	8235	2.76	22729	1.79	40760	
TY200 DES1005 Texts	317580 DES0003	Z006 28	302.9	304.6	1.70	1.53	3	8	50	4896	2.76	13513	2.42	32704	
MT280 ES000 Zmm Matrix Matri									ZONE 24	<b>TONNAGE=</b>		142782		508552	3.56
311333 DEGNES 2000 20 2410 3 112 10 113 00000000000000000000000000000000000	317280 DES0039	Z006 20	283	284.5	15	1.35	25	S.	25	*	2.76	2329	6.65	15486	
31750 SC80680 2000 (a) 241 (a) 210 (a) 240 (a)	317330 DES06-99	Z0ne 20	242.5	243.7	1.2	12	20	8	25	1500	2.76	4140	4.18	17305	
317800 ES044 2002 1961 1912 1 1 20 1001 2013 2014 <th< td=""><td>317355 DES06-90</td><td>Zone 2b</td><td>240.2</td><td>2412</td><td>1.0</td><td>-</td><td>20</td><td>8</td><td>25</td><td>1250</td><td>2.76</td><td>3450</td><td>1.40</td><td>4813</td><td></td></th<>	317355 DES06-90	Zone 2b	240.2	2412	1.0	-	20	8	25	1250	2.76	3450	1.40	4813	
317500 ES0102 2mm2 163 4.77 25 141 50 7008 27 1411 200 201	317380 S-24	ZOTHE ZD	196.6	198.12	1.5	1,35	25	2	25	25	2.76	2329	2.1	4890	
311 <td>317580 DES0032</td> <td>zone 2b</td> <td>163.9</td> <td>1692</td> <td>53</td> <td>4.77</td> <td>29.5</td> <td>14</td> <td>20</td> <td>7036</td> <td>2.76</td> <td>19419</td> <td>4,68</td> <td>90864</td> <td></td>	317580 DES0032	zone 2b	163.9	1692	53	4.77	29.5	14	20	7036	2.76	19419	4,68	90864	
M1430 DESI045 2005 2115 11 273 3014 256 1014 216 3014 256 3014 256 3014 256 3014 256 3014 256 3014 256 3014 256 3014 256 3014 256 3014 256 3014 256 3014 3014 256 3014 3016 3014 3016 3014 3016 3014 3016 3014 3016 3014 3016 3014 3016 3014 3016 3016 3014 3016 3014 3016 3014 3016 3016 3016 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>S</td> <td>SZONE 28</td> <td>FONNAGE=</td> <td></td> <td>31666</td> <td></td> <td>133359</td> <td>4.21</td>								S	SZONE 28	FONNAGE=		31666		133359	4.21
311430 DEGNet1 2165 220 10 375 65 35 105 236 105 105   311430 DEGNet1 2006 213 23 210 313 23 105 353   31140 DEGNet1 2006 213 23 210 235 105 235 105 235 105 235 354 564 567 568 567 567 567 206 555 564 567 504 507 365 554 567 504 507 365 567 507 366 568 568 501 10 55 1055 556 507 504 501 305 568 568 501 10 506 555 561 507 501 506 555 561 507 501 506 553 561 501 506 553 561 501 506 553 561 501 506 501 501 </td <td>317430 DES0045</td> <td>zone 2c</td> <td>209.7</td> <td>211.5</td> <td>10</td> <td>1.62</td> <td>27.5</td> <td>45</td> <td>25</td> <td>1114</td> <td>2.76</td> <td>3074</td> <td>2.6</td> <td>8054</td> <td></td>	317430 DES0045	zone 2c	209.7	211.5	10	1.62	27.5	45	25	1114	2.76	3074	2.6	8054	
31140 DECRMIT zmm3 1311 2.3 2.2 2.5 9.0 2.5 150 2.76 3490 0.711 3.14   31140 DECRMIT zmm32 2.33 2.31 2.31 2.31 2.31 2.31 2.31 2.31 2.31 2.31 2.31 2.31 2.31 2.31 2.31 2.31 3.31 <t< td=""><td>317430 DES06-102</td><td>2 zone 2c</td><td>218.5</td><td>220.5</td><td>2.0</td><td>1.80</td><td>37.5</td><td>88</td><td>25</td><td>1638</td><td>2.76</td><td>4668</td><td>2.26</td><td>10526</td><td></td></t<>	317430 DES06-102	2 zone 2c	218.5	220.5	2.0	1.80	37.5	88	25	1638	2.76	4668	2.26	10526	
J11405 (ES0168) Z005 Z333 Z31 Z01 Z25 1 (10) E <	317480 DES9917	zone 2c	134.8	137.1	2.3	e4	25	8	25	1250	2.76	3460	18.49	63791	
31730 DES0(6) 5068 508 201 500 201 500 201 500 201 500 201 500 200	317405 DES06-85	zone 2c	233	235.3	23	2.07	32.5	19	25	1682	2.76	4842	2,06	9585	1
M1330 DES0(66) Come(3) 56 S12 C13 <thc13< th=""> C13 C13</thc13<>									ZONE 2C	TONNAGE=		15823		91955	5.81
317400 DES0108 zone3a 4413 4417 14 126 59 58 25 157 437 446 1766 1766 31417 14 126 26 25 157 53 178 147 14 158 278 247 246 158 158 271 247 258 258 179 158 17400 DES0165 zone3a 2235 2341 16 144 120 25 247 276 247 26 27 381 134 144 158 24 158	317330 DES06-86	Z006 33	56.8	88 88	2.0	1,8	20	8	25	2250	2.76	6210	2.26	14050	
31143DEGReeker 20143 14 25 30 25 267 276 244 53 3134   31143DEGReeker zme3a 39133 3913 3913	317380 DES0038	zone 3a	440.3	441.7	4	1.26	20	8	25	1575	2.76	4347	4.05	17605	
31143D EG8068 med3 3861 18 162 74 120 25 2971 276 8272 316 3155   31145D EG8068 med3 1915 180 1 2 445 81 25 2971 276 8201 3191 3155   31145D EG8068 med3 1915 180 1 2 445 81 25 2017 209 17949   31145D E58068 med3 1927 1665 2 41 2 100 2 3173 2001 201	317430 DES0045	zone 3a	232.5	234.1	10	4	25	8	25	8	2.76	2484	536	13314	
311455 DE50646 zone3a 1915 1928 23 2 435 917 25 2175 000 2 29 1949 391 391 311455 DE50646 zone3a 2305 249 14 126 645 917 25 2016 201 239 249 14 126 645 917 25 2016 2017 2010 2010	317430 DES05-81	zone 3a	384.3	386.1	1,0	1,62	74	120	25	2997	2.76	8272	3.81	31515	
71430 EG0666 zme3a 2335 249 1 1 2 2002 276 6604 2.03 1333   71430 EG0666 zme3a 3027 3605 24 1 2 2002 276 6604 2.03 1333   31740 EG0666 zme3a 3627 165 2	317455 DES05-64	zone 3a	191.5	153.8	23	~1	43.5	18	25	2175	2.76	6003	2 99	17949	
311400 EE60667 2000 317 105 1 165 23 2.25 50 100 2.76 8004 2.31 2008   311400 EE60667 2000 317 10 1 1 50 310 2.76 8004 2.31 2008   311400 EE60640 2000 31 310 1 1 50 31 20 2.66 31 200 811 27900   311400 EE60640 2000 31 340 1 1 64 25 120 0 2.76 8004 811 27900   311400 EE60640 2003 4513 451 1 10 1 51 250 2.76 800 811 2790 3100   311400 EE60048 2003 2.81 440 2.61 1.60 2.76 800 241 2.61 1.76 1.76 2.61 2.70 800 316 1270 301 1170   31140 EE60048 2003 2.76 440 231 2.70 4.90 2.70 4	317455 DES05-68	zone 3a	239.5	240.9	<u>भ</u>	1.26	8.8	81	25	2002	2.76	560B	2.03	11383	
311400 DE601696 zone3a 3007 3107 10 1 50 20 25 1250 2.78 340 811 2790 811 2790 311 2000 510 200 201 201 201 201 201 201 201 201 2	317480 DES05-67	Z0ne 3a	192.7	196.5	2.8	2.52	3	126	25	3150	2.76	1698	2.31	20083	
311430 DES016102 Zone 3a 245.3 245.1 0.8 64.5 44 25 1000 27.6 2008 155 46.3 30.0   317300 DES0108 Zone 3a 451.3 452.7 1.4 1.26 50 157 2.76 4.37 117 17760 3.00   317300 DES0108 Zone 3a 451.3 452.7 1.4 1.26 50 65.7 4.37 317 17760 330 3165 2.76 4.37 317 17760 330 317 31760 317 31760 317 31760 3165 316 1.376 316 317 31760 3165 316 317 31760 316 317 31760 316 317 31760 316 317 31760 316 316 316 316 316 317 31760 316 317 31760 316 317 31760 316 316 317 31760 316 316 316 316 316 <td< td=""><td>317480 DES06.96</td><td>zone 3a</td><td>309.7</td><td>310.7</td><td>10</td><td>-</td><td>20</td><td>3</td><td>25</td><td>1250</td><td>2.76</td><td>3450</td><td>8,11</td><td>27980</td><td></td></td<>	317480 DES06.96	zone 3a	309.7	310.7	10	-	20	3	25	1250	2.76	3450	8,11	27980	
<b>31730</b> DES(003 Zone 3) 4513 427 14 126 50 63 57 75 437 317 1378 400 21 141 151 141 152 151 141 151 15	317430 DES06-102	2 zone 3a	245.3	246.1	0.8	0.8	32.52	44	25	1090	2.76	<u>3008</u>	1.56	4678	
<b>31740</b> (ES0164) 2010 2010 2010 201 201 201 201 201 201	ALL DOT OF THE REAL OF THE		4.944		2.0		-	**	CUNE 3A	IUNNAGE	-	40005		100000	3.3U
314.0 DESIGNE ZERIA 20 2398 240 32 288 25 12 25 1900 2.16 458 355 1501 800 315 2728 313 31450 EBG48 2696 3145 151 125 14 100 25 248 276 880 315 2728 3173 31450 EBG48 2696 2696 3143 158 2 1 15 77 2 75 818 2 1 15 77 2 75 810 317 15 275 810 315 77 31 31450 EB648 2696 2696 2696 3143 158 2 1 18 2 15 71 2 17 2 18 20 13 27 15 27 18 21	317380 DES0038	ZORe 30	451.3	452.7	1.4	1.28	3	21	25	15/5	2.76	13.	3.17	13780	
31743/DES04561 zone30 394 3655 15 1.35 74 100 25 2498 2.76 880 355 2728 31745/DES04565 zone30 134.7 1388 21 189 2.75 172 2.76 480 3.27 4551 31745/DES04566 zone30 134.7 1388 21 189 2.75 48 25 1132 2.76 422 14820 31745/DES04568 zone30 134.7 1388 21 189 2.75 2.76 420 3.27 422 14820 31745/DES04568 zone30 134.7 1388 21 189 2.75 2.76 2.70 2.72 480	317430 DES0045	ZONe 3D	239.8	243	32	588	25	12	25	1800	2.76	4968	3.95	19624	
317455 DE501646 zome30 1347 1368 21 189 375 71 25 1772 25 1772 25 1329 425 14503 317455 DE501648 zome30 1495 1515 20 18 255 48 255 153 276 2309 422 14303 317455 DE501648 zome30 1495 1515 20 18 255 48 ZONE 38 TONNAGE 23390 422 14303 317455 DE501648 zome30 1347 13072 504	317430 DES05-81	zone 3b	N.C	395.5	1.5	1.35	4	100	25	2438	2.76	1000	3.8	27228	
01445 DESNE98 Z016-00 1495 1515 20 1,8 265 48 25 119 2.78 2291 4.52 1492 2018 36 DNNAGE 2 2430 113222 5.04 2018 36 DNNAGE 2 2430 113222 5.04	317455 DES05-65	Zone 30	134.7	136.8	21	8	37.5	E	25	1772	2.78	4890	9.72	47531	
	317455 DES05-58	Z086.30	9,641	121.5	2.0	20	26.5	48	70115 25	1155	2.76	1675	4.52	14200	101
	A TANAN PLONE ON	11 Mar 1	495.0	1 401	0.0	5	6.4	50	CUNE 30	UNNAUC-	01.0	10047	0.01	103064	5.0