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# Letter-Report for the Duvay Gold Property Preliminary Assessment

*CANTON DUVERNY, ABITIBI, QUEBEC*

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Presented on November 6<sup>th</sup>, 2015

**PJLGCI** is pleased to present to Secova Metals Corp this preliminary assessment of the Duvay Project located near Amos, Quebec, Canada.

**Cautionary Note:** This document is a preliminary assessment. It is not meant to be a substitute for an NI 43-101 compliant Technical Report. All the content is coming from public records available on SIGEOM and past and present companies involved with the Duvay Property. It is a technical document designed to inform Secova Management about the Duvay Project status for which they have exercised an option with Tres-Or and other current stakeholder including Semantiou and Globex Mining announced on September 28<sup>th</sup>, 2015. The opinions expressed in this letter-report are those of PJLGCI only.

<http://www.tres-or.com/announcements/tres-or-options-the-duvay-gold-project-in-quebec>



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# **1 Executive Summary**

In September 2015, Secova Exploration Ltd. retained the services of P.J. Lafleur Géo-Conseil Inc. (“PJLGC”) to undertake an assessment report for a future geoscientific compilation (Geology, geophysics, drilling, etc.) on the Duvay Gold deposit, located in North West Quebec, in the Abitibi Greenstone Belt. The authors of the report are M. Ali Ben Ayad, P. Geo and Pierre-Jean Lafleur, Eng. Both are independent consultant's geologists.

The data used to prepare this report is based on the analysis of the historical assessment files (GM) available on the E- Sigeom EXAMIN search engine from the “Ministère des Ressources naturelles et de la Faune” (MRNF. Web site: [www.mrn.gouv.qc.ca](http://www.mrn.gouv.qc.ca)) on the Internet, the internal documents provided by Tres-Or Resources Ltd. and personal observations during a site visit of the Duvay Project on October 17th and 18th, 2015.

Amos is the main town on the Harricana River (population 10,000), and the smallest of the three primary towns — after Rouyn-Noranda and Val-d'Or — in the Abitibi-Témiscamingue region of Quebec (population 160,000). The nearest cities with airports serviced by regular flights are Rouyn-Noranda, which is 120 km by road to the southwest, and Val d'Or, which is 90 km by road to the southeast. The property topography is mostly low-relief lowlands with boreal forest cover, small ponds, and swampy ground.

## **1.1 History**

The Duvay Gold Property (the “Property”) is located 16 kilometers northeast of Amos and comprises 65 contiguous claims covering 2,340 hectares located in Duvernay and Dalquier Townships, Quebec. Numerous discoveries of precious and base metal mineralization were made in the Amos-Duvernay-Barraute District since 1930's. Duvay Gold Project was discovered in 1944.

The Duvay Gold Mines Company Ltd. explored the property between 1944 and 1948, including an exploration shaft and underground drifts. The surface exploration program included diamond drill holes, trench sampling and some geophysical survey which led to the discovery of three gold-showing in a major shear zone. The best sample values intersected were 469,8 g/T over 0,35 m; 76,8 g/T over 0, 48m; 14 g/T over 0, 66m and 5,89/T over 1, 52m. Other similar gold values were intersected by Semac Mining Company on a second showing. Gold mineralization was encountered in the shear zone associated to two orthogonal quartz veins and some veinlets. The grade was not sufficiently high to allow mining of the whole zone. Operations were suspended in February 1948.

In 1985, Sphinx Mines Company Inc. completed exploration works (Mag, EM and IP) on the Duvay property which had six claims then. This work confirmed the presence of the three showing (Duvay showing, Mallich and Semac showings) and a second parallel shear zone located north of the main shear zone was discovered. In 1986, geophysics surveys cover all the property. Detailed geological mapping was done. Diamond drilling (1 500m) was executed and three bulk samples of about 1000 metric tonnes each were



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taken. In 1987-88, the exploration program was about \$2 million. It included 65 700 m<sup>2</sup> of mechanical stripping and 10 400 feet (3 170 m) of percussion drilling, 7 718 m of diamond drilling (40 drill holes) and 75 bulk samples totaling 20 000 metric tons.

In November 2008, Semantiou Inc. with Globex Enterprises Ltd. made three shorts drill holes to confirm the presence of gold in the area close to the 1946 exploration shaft. The best result was from DU-08-01 with 4.16 g/T over 0.3 m.

From 2011 to 2014, Tres-Or Resources Ltd. (Tres-Or) did explore the Duvay property (Mag survey), in part with Aurizon Mines Ltd (now Hecla). Tres-Or's drilled 13 holes. The best analytical results include 83.194 grams per tonne (g/t) gold (Au) over 1 m and 5.217 g/t Au over 1. Ten tonnes bulk samples were processed in a plant built on the Duvay site. The richest (DVP-002) yielded a grade of 0.77 g/t Au and a concentrate averaging 369.43 g/t Au by gravity only.

## **1.2 Geology and Mineralization**

The Duvay Property is located in the eastern part of the Abitibi Greenstone Belt of the Canadian Shield's Superior Province. The Abitibi Sub-province, the largest greenstone belt of the Superior Province, consists mostly of NW-SE to E-W striking volcanic and sedimentary rocks of Archean age. Plutonic bodies in the region are diverse in size and composition, and include granitic to granodioritic plutons, and granitic to gabbroic sills and dykes. Volcanic and intrusive rocks have generally been metamorphosed to greenschist facies. The Abitibi Sub-province is well known for its important volcanogenic massive sulphides and orogenic lode gold deposits, and porphyry-type deposits. Two main types of gold deposits are found; the common orogenic quartz-vein type and the rare pyritic type. Both occur in areas spatially associated with major fault zones.

The Duvay property is essentially located in the "Lac Arthur Formation". Which consists mostly of andesitic and minor basaltic flows, generally metric pillowed flows, with some felsic volcanic like rhyolite, which regionally hosts some small massif sulphide lens (Jonpol Rhyolite), and dacitic flows.

All these units are regionally oriented E-W along the regional trend of deformation with isoclinal folds. The Duvay Property is located within the southern flank of the Soma 'mega-anticline', one of the four megastructure recognized regionally. At a regional scale, the airborne geophysics (Mag and EM) shows the presence of a NW-SE fault connecting the Duvay Gold showings to the Grenadier showing to the south.

At the scale of the Property, the geological map by Sphinx (1985-1987) shows two main directions of 'ductile-brittle to brittle' faulting recognized by different authors on the property:

- ✓ The main shear zone and the north shear zone striking N120 and dipping steeply southwest (5 to 20 m width over 700m length).
- ✓ The north-easterly moderate shear zones and faults dipping moderately NW. The NE fault crosscut the N120 main shear and can locally show fault breccia. The width of the NE shears varies from 3 to 10 m.



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The wall alteration of these shear zones is characterized by a strong alteration of the rocks close to the main shear. Regionally, there is a widespread moderate alteration halo around the deposit.

Spatially associated to these shears in the alteration zones, three major group of quartz veins and veinlets have been identified by different authors, and confirmed in our field trip: the flat veins and the two vertical veins in both shear zone. Their thickness is generally much less than a meter, in the range of 5 to 25 cm, locally up to 90 cm in drillholes.

These two orthogonal quartz vein's type are located in the foot-wall and hanging wall of the shear zones. The third quartz vein's type corresponds to veinlet, generally from 1 cm to 3 cm, located inside the main shear zone, particularly in the major N120 south shear zone.

Gold appears as native gold and/or probably associated with sulphides in the orthogonal quartz veins described above, which are located in the main shear alteration zone (about 60 m in width). The common sulphides in the auriferous quartz-carbonates veins and veinlets correspond to essentially pyrite and traces of chalcopyrite, sphalerite and rarely galena. These sulphides, which abundance varies from 1% to 10 % for the pyrite, with an average of 2-5%, are generally disseminated in a white to greyish more or less fibrous quartz with white milky carbonates or in the border of the quartz-carbonate veins. Locally, besides the chlorite-sericite, chromian micas (Fuchsite) and also tourmaline have been observed in the quartz-carbonates veins and/or in the altered wall for fuchsite (Drill holes data).

### **1.3 Exploration (Geophysics)**

The various geophysics surveys were used to define complementary works and/or new drill hole targets. Our conclusion is that it needs to be analyzed by an experienced geophysicist and a senior geologist. Important information can be extracted, at this stage, from the different airborne and ground surveys.

IP seems to have been done for the first time by Sphinx in 1986 but it is not available. In 2004, an IP survey was done for Globex Mining Enterprises. Several IP anomalies have been identified. Considering the overburden, it may have reached a depth of 75 m.

### **1.4 Drilling Database**

Initially, PJLGC received 4,502 computer files in 490 folders (11 GB) plus 1.45 GB and 250 MB of additional files from Tres-Or in October 2015. This included data other than the Duvay project. Most drill logs are available in PDF today but little data was made available to PJLGC in a usable database.

Only one Geotic database file in Microsoft Access containing 878 drill logs is ready for 3D modeling, including 339 drillholes on Duvay (See table below). A quick check of gold grades in the database indicate they match the logs in PDF.



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### *Drill holes database Statistics*

878 DH in Geotic DB	
339/878 DH in Duvay	39%
256/339 DH in Duvay with location	76%
232/256 DH with samples	91%
with 7267 samples	
6770/7267 samples with assays	93%

The data in the Geotic database for Duvay has its names mixed up. PJLGCI recovered 119 DH names and correct them for a quick verification. Tres-Or did 13 drillholes in 2011 and they are not in the Geotic database. PJLGCI received a separate DWG file (drawing) with the trace of the drill holes and their names with no geology and no assays. It match the various historical maps and drillhole logs in PDF found in the GM's.

## **1.5 Economic Geology**

After the discovery of the Duvay Showing in 1944, exhaustive exploration programs were carried out by Duvay Gold Mines Company Ltd. until 1948. The discovery of the three gold-showing by Duvay, Mallich and Semac associated to the major shear zone shows values like 469,8 g/T over 0,35 m; 76,8 g/T over 0,48m; 14 g/T over 0, 66m and 5,89/T over 1, 52m.

The Duvay exploration programs above included a 40 tons bulk sample assayed at 0.207 ounce of gold per ton. The mining underground programs let the company septic for an eventual underground mining operation. Operations were suspended in February 1948.

In 1985-88, the exploration program by Sphinx cost about \$2 million and included extensive surface stripping, drilling and bulk sampling. Casmyn Engineering did for Sphinx a feasibility study for underground mining in 1987 and for an open pit heap leach mine in 1991. See Historical Mineral Resources below.

In 2008, Semantiou and Globex made three shorts drill holes to confirm the presence of gold in the quartz-veins near the shaft. The best result was from DU-08-01 with 4.16 g/T over 0.3 m. In 2011, Tres-Or drilled 13 holes which included 83.2 g/t Au over 1 m and 5.22 g/t Au over 1 m as well as 8 other intervals between 0.42 g/t Au and 1.93 g/t Au over 1 m intervals.

### **1.5.1 Historical Mineral Resources**

There is no NI 43-101 compliant technical report with mineral resources evaluation. The historical technical report about potential mineral resources called "Reserves" have not been found for Duvay yet. The only mineral resources estimation documented are signaled by the Ministry of Natural Resources of Quebec (MRNFQ) in reference to " The Canadian Mining Handbook of 1994-95 (p.350)" Reporting "reserves" of 1 Mt at 7,47 g/t Au in 1987 amenable to underground mining (not implemented) and to 6,66 Mt "probable reserves" ("drill indicated") at 2,06 g/t Au in 1991 amenable to open pit mining and heap leaching





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processing. An article by David Robertson published in September 1990 in the “Mining journal newspaper” reports that the operation delivered 40 thousand tonnes of ore and extracted 300 oz. of gold and 200 oz. of silver pending the construction of a CIP mill. The importance of the visible “nuggety gold” make difficult the evaluation of the grades. These reserves correspond probably to the evaluation of the two zones, thus the Main deposit and “Zone de la fosse” of Duvay.

In 1995, Casmyn converted to a mining company based in Africa. The technical reports done by Casmyn for Sphinx are not available. There are no known technical documents that explains how those estimates were done. Sphinx did not pursue the heap leach pad mining on Duvay after 1991. Gold price was going down from about \$360 in 1991 to \$256 in 1999. Most gold mining projects were stopped until the commodity prices surged between 2003 and 2012.

## **1.6 Conclusions**

The conclusion of this preliminary geoscientific compilation allows first to make an inventory of the available material of reference on Duvay. PJLGCI determined how to use this data to value the Duvay Property and complete future exploration work.

### **1.6.1 Geology of the deposit**

The only geological map was done by Sphinx in 1985. It has to be completed in some areas to solve problems of lithology and structures. For example, an intrusive magmatic facies (Diorite-microdiorite?) outcrops in the shaft area and is intersected in drillholes but was not mapped. This facies is highly altered, but no sulphide have yet been reported in it. In the northwest zone of the main shear, the existence of another intrusive (Gabbro) has been mapped, but the interpretations of its limits are not clear. Some short drillholes in this area show the existence of gold values in the gabbro. These hard rock (Diorite and gabbro) are favorable to the existence of important quartz veins as known in many gold deposits in the region east of Val d’Or.

### **1.6.2 Drilling**

Considering the relatively large number of drillholes on Duvay (339) and underground exploration workings plus the various historical geophysical survey and the narrow veins style of the gold bearing structures, additional detailed geological compilation work (phase 1) is required to identify valid drillhole targets (phase 2).

### **1.6.3 Geophysics**

The different airborne and ground geophysics surveys (Mag, EM and IP) have not been fully used. The Duvay shear is clearly identified at different scales and can be followed regionally, with local complication which can have important incidence on exploration along this shear.



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## **1.7 Recommendations**

PJLGCI recommend the following as a priority to complete a geological compilation and recognize eventual geophysical targets, for total budget of about 1 000 000\$:

Phase 1 (Sub Total budgetary estimated cost of \$93 109):

- Continue the geoscientific compilation by a senior geologist with the geophysical data (\$24 000),
- Interpretation of the existing geophysical data by an experience geophysicist (\$22 770),
- A topographic survey (\$11 500),
- Carry out a new geophysical survey on the deposit area. We recommend an IP 3D survey (OreVision 3D) on the deposit area to a depth of at least 200 m (\$27 939),
- Lines must be cut for the IP survey, about 10 km (\$6 900),

Phase 2 (Sub Total budgetary estimated cost of \$906 550):

- Depending of the results of the IP 3D survey, ten drillholes, totaling 3 250 m (5 x 400m and 5 x 250m) will be used for this recognition. The estimated cost of drilling is **\$750 950** all included (*drilling, sampling, assaying, logging*) from drilling to 3D database at \$200 per meter. This item represent 75% of the budget recommended but it is an amount that depends on the results of phase 1.
- A drilling database has to be created to produce drill sections in 3D using all historical data available. The estimated cost is \$144 000. The 3D geological sections combined with topographic and geophysics survey on surface are necessary to understand the geology of the deposit area and create the mineralization envelope to evaluate the mineral resources.

The total budget for exploration for Secova at this stage of the Duvay project is estimated to be about \$1 million, including 75% of the budget for drilling in phase 2 of the program.

Creating a new drillhole database is costly in time and money at \$144 000. It will take about 1 month to accomplish this task. However, if we consider that it is likely to recover all historical drilling results from 339 holes averaging 100m in length at \$200 per meter (today), the replacement value for this information is over \$7 million. However, this historical data, while useful for exploration work planning, will not comply with the NI 43-101 for lack of assay certificates and so on.

In fact, if we add up the drilling, the surveys, the mine workings, overburden stripping, bulk sampling, etc., the replacement value for the Duvay property data is probably over \$50 million.



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## **2 Introduction**

In September 2015, Secova Exploration Ltd. retained the services of P.J. Lafleur Géo-Conseil Inc. (“PJLGC”) to undertake an assessment report for a future geoscientific compilation (Geology, geophysics, drilling, etc.) on the Duvay Gold deposit, located in North West Quebec in the Abitibi Greenstone Belt.

The authors of the report are M. Ali Ben Ayad, P.Geo and Pierre-Jean Lafleur, Eng. Both are independent consultant's geologists.

### **2.1 Sources of Information**

The data used to prepare this report is based on the analysis of the historical assessment files (GM) available on the E- Sigeom EXAMIN search engine from the “Ministère des Ressources naturelles et de la Faune” (MRNF. Web site:www.mrn.gouv.qc.ca) on the Internet, the internal documents provided by Tres-Or Resources Ltd. and personal observations during a site visit of the Duvay Project on October 17<sup>th</sup> and 18<sup>th</sup>, 2015.

This site visit allowed to:

- Control the geology on some outcrops around the old mine shaft (1946),
- Visit the core shack and sample the available core from 13 drillholes from Tres-Or resources Ltd. 2011 program. PGLGCI confirm the procedures for logging, sampling, core handling and storage, etc.
- PJLGC took 20 samples from the available drill cores for a due diligence exercise.



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### **3 Property Description and Location**

*This item is extracted and summarized from the Tres-or Resources Ltd. Technical report dated October 31st, 2012 by Harrison O.Cookenboo, Ph.D., P.Geo. and Laura Lee Duffett, P.Geo., President, Tres-Or Resources Ltd.*

The Duvay Gold Property (the “Property”) in Quebec comprises 65 contiguous claims covering 2,340 hectares located in Duvernoy and Dalquier Townships, Quebec (Figure 1). The Property is being explored for gold and base metals and is located 16 kilometers northeast of Amos, Quebec and is accessed by paved highway 395. The Property is centered at UTM's 282,700 E and 5,397,000 N (Datum = NAD83) in NTS map sheet 32C12. The Duvay Gold Property outline is shown in Figure 2 below.



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Figure 1 Amos Location in Western Quebec

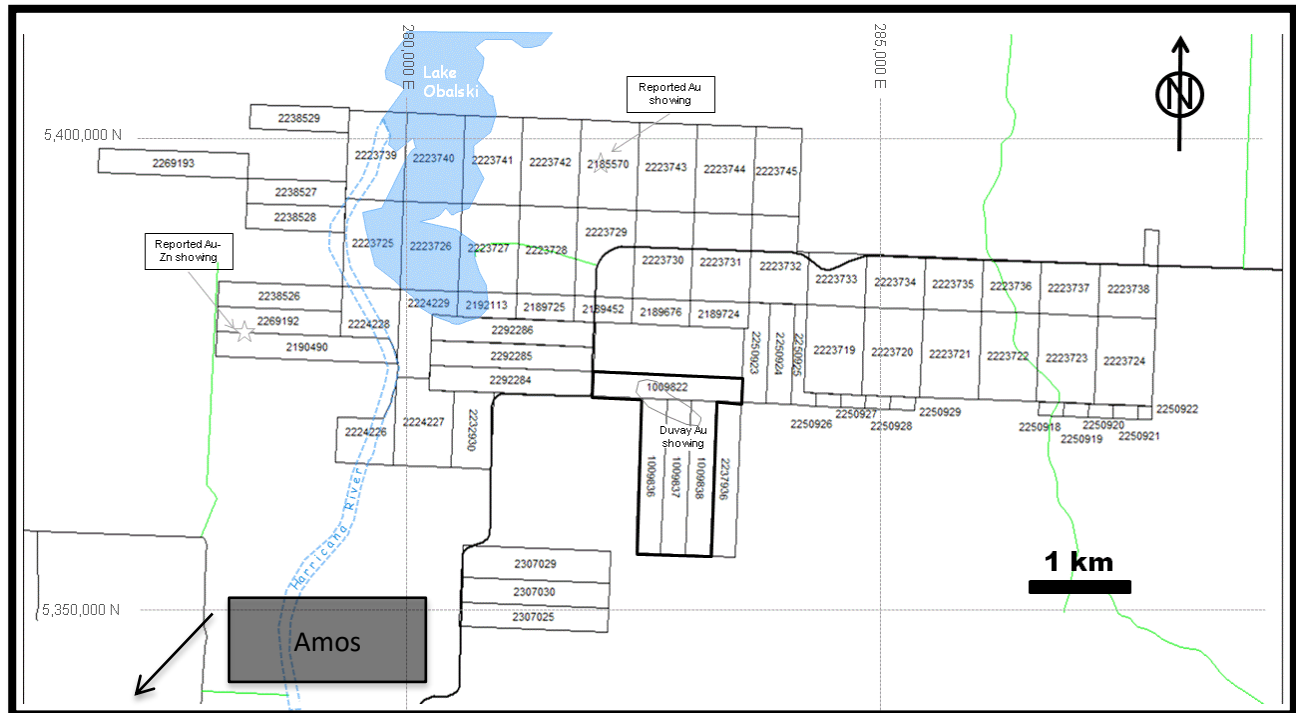


Figure 2 Duvay Gold Property location map. ( The 4 Duvay Gold occurrence claims in bold).



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

*This item is extracted in part from the Tres-or Resources Ltd. Technical report dated October 31st, 2012 by Harrison O.Cookenboo, Ph.D., P.Geo. and Laura Lee Duffett, P.Geo., President, Tres-Or Resources Ltd.*

The Duvay Gold Property is located 16 kilometers northeast of the city of Amos, Quebec, and is accessed by paved highway 395.

Amos is the main town on the Harricana River (population 10,000), and the smallest of the three primary towns — after Rouyn-Noranda and Val-d'Or — in the Abitibi-Témiscamingue region of Quebec (population 160,000). Amos main resources are spring water, gold and wood products, including paper. Amos was the first colonization point for the region of Abitibi in Quebec, with colonization beginning in 1910 based on agricultural economy. The municipality was established in 1914 while the city itself was chartered in 1925.

Amos has a municipal airport but it is not serviced by scheduled commercial flights. The nearest cities with airports serviced by regular flights are Rouyn-Noranda, which is 120 km by road to the southwest, and Val d'Or, which is 90 km by road to the southeast.

The property topography is mostly low-relief lowlands with boreal forest cover, small ponds, and swampy ground. The western edge of the property covers the Harricana River and Lake Obalski. Small rocky hills expose outcrop with elevation gains typically of less than 20m.

Dry, cold winters and hot humid summers under the influence of a continental climate mark the region. The average temperature for July is 23.4°C, whereas January temperatures hover around -26°C. The historical recorded low was -50.5°C (1981), and the high 36.7°C (1975).



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## **5 History of the Duvay Project**

### **5.1 Regional Exploration and Mining History**

Both Rouyn-Noranda and Val d'Or have traditionally been centers for the mining industry. There is a large base of skilled mining personnel and suppliers' resident within the region.

Mining first appeared in the region in 1928 from the Horne mine and its copper smelter in Rouyn-Noranda to the Sigma gold mine in Val d'Or following journeys from prospectors and miners from Ontario into Quebec. They travelled from Timmins (1905 Dome Mine discovered during the Klondike Gold Rush) and Sudbury (1870 after the 1849 California Gold Rush) following rivers and lakes easterly to Amos and south all the way down to Ottawa. The Cadillac Larder Lake fault stretches 300 km between Val d'Or and Timmins. It is the most productive gold region in Canada. Malartic near Val d'Or host the Canadian Malartic mine initiated by Osisko in 2005. It became the largest gold mine in Canada for some time after it started production in 2011. Gold mines line up back to back from Louvicourt to Timmins.

### **5.2 Duvay Project Discovery**

Numerous discoveries of precious and base metal mineralization have been made in the Amos-Duverny-Barraute District since 1930's. Duvay Gold Project has been discovered in 1944. Exhaustive exploration works was done by Duvay Gold Mines Company Ltd. between 1944 and 1948 including an exploration shaft and underground drifts.

In 1945 and 1946, Duvay Gold Mines completed a geophysical survey on the property and 20,000 feet of diamond drilling, mostly in the extreme northern parts of lots 10 and 11. Spectacular but erratic gold mineralization was encountered in the shear zone. The exploration program which included diamond drill holes, trench sampling, some geophysical survey, led to the discovery of three gold-showing (GM 8214-A and 10028) associated to a major shear zone oriented N300. The best sample values were: (GM8207 and GM8214) : 469,8 g/T over 0,35 m; 76,8 g/T over 0, 48m; 14 g/T over 0, 66m et 5,89/T over 1, 52m.

During the summer of 1946, a bulk channel sample weighing 40 tons was taken across approximately 40 feet of the main mineralized zone near the center line of lot 10, 200 feet south of the range line. The sample was tested at the plant of the Quebec Department of Mines in Val d'Or. It assayed 0.207 ounce of gold per ton. Following this test, Duvay, in conjunction with Dorvue Mines Ltd., sank a two-compartment shaft in lot 13, range IX (see p. 58). A total of 493 feet of crosscutting, 381 feet of drifting and 52 feet of raises were completed. The gold was found to be localized in thin stringers, and the grade was not sufficiently high to allow mining of the whole zone or selectively mining the small veins. Operations were suspended in February 1948, and the property was inactive for many years afterward (Weber and Latulippe in 1964 (RG 109)).

In parallel to the Duvay Gold mines exploration work, a second showing was discovered in 1945 by Mallich Mines Ltd. It was located about 600 m south-east of the Duvay discovery. A mag survey, sampling in trenches and 15 diamond Drill holes totaling 1 645 m were done to explore the down dip extension of this showing (GM 8207-A).



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The company SEMAC discovered the third gold showing in 1946 at less than 100 m north of the Duvay discovery. A geological map, trenches and a program of 13 diamonds drill holes totaling 1 828 m was completed before they let go the property.

*There was a gold rush in Abitibi in the 1930's. Gold mines were favored during the war but they declined after the war. Most small gold mines in Canada closed around 1956. Gold price was fixed at \$35/t.on and the Federal government of Canada was giving a \$10 premium on each ounce of gold mined until gold was traded freely on open markets for the first time in Winnipeg in 1971. It started to rise from \$35 up to \$860 in 1980 before falling again. This started a new gold rush in Abitibi in the 1980's.*

In 1985, Sphinx Mines Company Inc. completed a Mag and EM surveys on the Duvay property which had six claims then. IP survey tests and geological work was done (GM 42597). This work confirmed the presence of the three showing (Duvay showing, Mallich and Semac showings). A second shear zone located north and parallel to the main shear zone on Duvay was discovered and claimed following this exploration work (Jacquelin Gauthier, GM42597). In 1986, a Mag-EM survey was done on the new claims followed by an IP survey on all the property. Detailed geological mapping was done after mechanical stripping (17 000 m<sup>2</sup>). Diamond drilling (1 500m) was executed and three bulk samples of 1 194.2, 1 007.99 and 1 099.53 metric tonnes were taken in three different locations along the main shear zone (Rivest, 1987; Jacquelin Gauthier, 1988). In 1987-88, the exploration program was about 2 million dollars. It included 65 700 m<sup>2</sup> of mechanical stripping and 10 400 feet (3 170m) of percussion drilling, 7 718 m of diamond drilling (40 drill holes) and 75 bulk samples totaling 20 000 metric tonnes. The results of this exploration program is presented in the compilation report of 1988 (GM 42597).

*After its peak at \$850 in 1980, the gold price stabilized around \$360/t.on 10 years later before falling to \$256 in 1999. All gold mines were closing again with a few exceptions. Then metal prices started to rise slowly until 2003 after which a new gold rush started again until 2012 when gold price peaked at \$1746/t.on. It is now at about \$1130/t.on. or \$1500 CDN.*

In November 2008 (GM64361), Semantiou Inc. with Globex Enterprises Ltd. made three shorts drill holes about 30 m each (for a total of 91.44 m) to confirm the presence of gold in the area close to the 1946 exploration mine shaft. The results of this short program confirmed the erratic nature of gold grade in the quartz-veins on the property. The best result was from DU-08-01 with 4.16 g/T over 0.3 m.

From 2011 to 2014, Tres-Or Resources Ltd. (Tres-Or) did explore the Duvay property with Aurizon Mines Ltd (now Hecla). Based on the technical report of 2012 by Tres-Or, the exploration programs can be summarized as follows:

*"Surface sampling and structural mapping returned strongly gold mineralized samples from within the main Duvay shear zone. The two most mineralized hand samples (out of 18 analyzed) returned 199 g/t Au (plus 104 g/t Ag and 4.55% Cu) and 130 g/t Au (Note that hand samples are selective and not representative of likely grades). Tres-Or collected 19 surface channel samples ranging from 0.60 to 15.00 m in length with the best gold mineralization returning 0.64 g/t Au over 8.00 m, including a higher grade interval of 1.65 g/t Au over 2.98 m.*





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*Tres-Or's preliminary drill program comprised 1 234.5 m in 13 drill holes (NQ core). The holes tested interpreted fault structures and mapped shear zones. Two holes were drilled from the same setup for most of the holes. Each setup plan was for a 75 m vertical hole, and a 125 m hole inclined at 45 degrees to the horizontal. The entire core was analyzed, usually in 1 m intervals. Best analytical results include 83.194 grams per tonne (g/t) gold (Au) over 1 m and 5.217 g/t Au over 1 m as well as eight other intervals between 0.420 g/t Au and 1.930 g/t Au, for intervals between 1 and 7 m. Small (10 tonnes) bulk samples were excavated, crushed and processed in a test plant built on the Duvay site. The richest pit test (DVP-002) yielded a sample grade of 0.77 g/t Au from 10 tonnes, with concentrate values averaging 369.43 g/t Au. A northeast striking fault breccia is exposed crossing the center of this pit."*



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## **6 Geological Setting and Mineralization**

### **6.1 Regional and Local Geology**

#### **6.1.1 Highlight of the regional geology**

The Duvay Gold Property is located in the eastern part of the Abitibi Greenstone Belt of the Canadian Shield's Superior Province.

The Abitibi region consists mostly of NW-SE to E-W striking volcanic and sedimentary rocks of Archean age. Plutonic bodies are diverse in size and composition, and include granitic to granodioritic plutons, and granitic to gabbroic and ultramafic sills and dykes.

The volcanic rocks are mainly of mafic composition, although ultramafic, intermediate and felsic types are also present. The abundance of pillowed and non-vesicular lavas, together with the flyschoid character of much of the sedimentary component, demonstrates the prevalence of deep submarine conditions. However, the occurrence of some fluvial sedimentary rocks and air fall tuffs attest to occasional local non-marine conditions.

At the scale of the eastern Abitibi greenstone belt, the rocks (metavolcanics) are located within the northern flank of "La Motte-Vassan Anticline" (Imreh, 1982) and considered as a part of the Kinojevis Group. The Kinojevis Group is defined as a sequence of iron tholeiitic rocks. It is stratigraphically located under the Blake River Group.

These supracrustal rocks were deformed and intruded by granitic stocks and batholiths during the Kenoran event about 2,680 to 2,700 million years (Ma) ago.

Regional metamorphism is predominantly greenschist and prehnite-pumpellyite facies except in the contact aureoles of the Kenoran granites where amphibolites grade is usually attained.

Numerous diabase dykes, post Kenoran orogenesis, with a Proterozoic Age, crosscut at a direction of 030° to 045° N all the lithologies described above.

#### **6.1.2 Local lithology**

At the scale of local geology, recent geological works in the area of Amos (Labbé, 1994, 1999) reconsider the historical lithostratigraphic subdivisions (Imreh, 1984) regarding their continuity.

Based on lithological and lithochemical criteria, Labbé defines six stratigraphically units regionally separated from one another by major structural contacts (Figure 3). Thus, from north to south: Béarn group (pillowed basaltic flow), Lac Arthur group (andesite and rhyolite), La Morandière group (pillowed basaltic flow), Amos group (pillowed basaltic flow), Figuery group (Andesite and rhyolite) and Landrienne group (pillowed basaltic flow). This volcanic succession is interpreted, following a geochemical study of all the volcanic mentioned above, as beginning by a first phase of calco-alkaline (Figuery Group) volcanism in



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an immature arc environment, followed by a rifting and a second phase of transitional volcanism (Lac Arthur Group).

In our case, The Duvay property is essentially located in the “Lac Arthur Formation.”

The “**Lac Arthur Formation**” consists mostly of andesitic and minor basaltic flows, generally metric pillowed flows, with some felsic volcanic like rhyolitic (Jonpol Rhyolite, which contains some massif sulphide lens and dacitic flows. (Labbé, 1995, 1999).

All these units are regionally oriented E-W on the regional trend of deformation and shows isoclinal structures of folding.

### 6.1.3 Structures

In the area of Amos Township, all the structures and microstructures are generally oriented along the regional E-W trend. Rock units dip generally steeply to the north; however, locally they commonly dip sub-vertically to the south.

The schistosity, generally highly developed in some geological units (Figury), can also be discreet in other units (north of the McArthur Formation). However, this schistosity intensifies approaching the deformation corridors, the inverse faults and the axial plane of folds.

Four megastructures have been identified by Webber and al (1964) and redefined (Figure 4) by Labbé (1982). From north to south is the Soma anticline and the supposed “Duvernoy syncline” affecting the Mac Arthur Group lithologies, the anticline of “Rivière Chevalier” (Amos anticline of Webber) affecting the “Figury Group” lithologies and the syncline of “Ruisseau Brisson” limited in the south by an overthrust fault on the Landrienne Group.

The Duvay Gold Property, object of this report, is located within the southern flank of the Soma ‘mega-anticline’ (Figure 3).

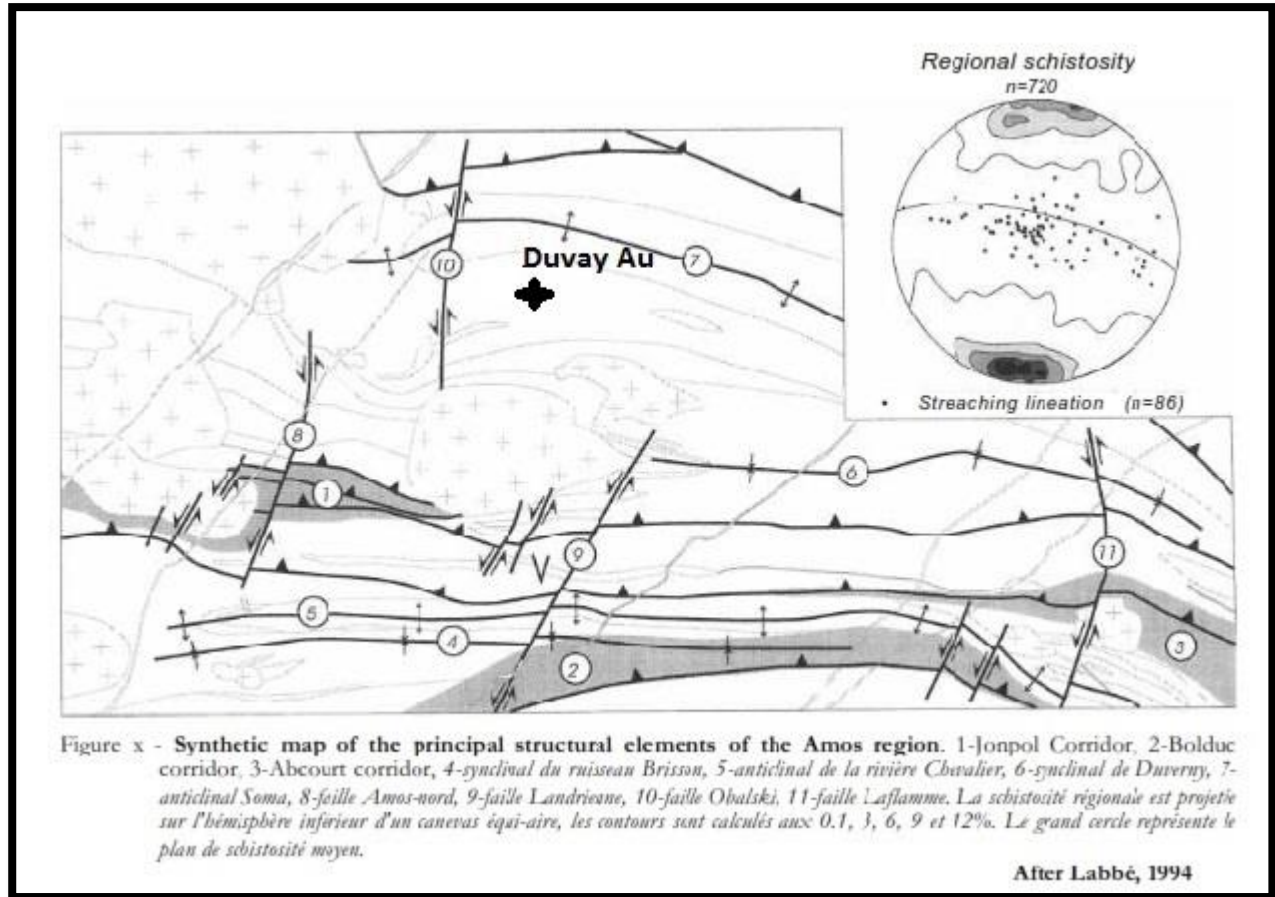


Figure 3 Schematic Structural Map of the Property Area (Labbé, 1995)

## 6.2 Property Geology

### 6.2.1 Structures

At the scale of the Property, numerous outcrops are found in the deposit area and north of this zone. The south and the west part of the property seem to be covered by overburden which thickness varies from 5 m to more than 25m locally (Drillholes data).

In 1985, the first map completed by Sphinx Mining Company Inc. (GM 42598) covers the Area defined by the Duvay Gold deposit defined by the four claims (Figure 2). Following the geophysical survey (Mag and EM) and drilling, a synthetic map was elaborated in 1988 (GM 47569) by a consultant (Jacquelin Gauthier, 1988) for Sphinx following the discovery by geophysics of a weaker north shear parallel to the main ductile shear zone (Figure 4). This map of Sphinx 1988 constitutes the principal geological map of the property. A



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field visit by PJLGCI in October 2015 allowed the verification of this map compilation. It confirmed the geology on the property and validated the different observations of the two authors mentioned above (Labbé and Gauthier).

No other geological map has been compiled since, except a structural model by Tres-Or resources (2014) tagged the 'Almond model' for the Duvay shear zone. During the field visit, C and S plans responsible for the apparent almond shape geometry have been observed locally in the main shear zone but at a small scale and not on a larger scale.

The Property is located (Figure 3) in the "Lac Arthur Formation" (Labbé, 1995, 1999) which, in this area, consists mostly of andesitic and minor basaltic flows with amygdular pillowed flows, agglomerate and breccia with some felsic volcanic like dacitic flows and local felsic tuffs. These volcanics have undergone widespread moderate carbonatization and locally an intense carbonatization.

The property is part of the south limb of the Soma Anticline located to the north (Figure 3). The structures and microstructures on the Property are generally oriented along the local E-W trend, except near the shear zone where the lithology and schistosity turn to a NE-SW trend. Rock unit's dip generally steeply to the north with a polarity generally to the south. This polarity is locally to the north attesting the presence of pluri-metric to hector-metric folds (south flank drag folds of the Soma anticline).

Two main directions of 'ductile-brittle to brittle' faulting are recognized by different authors on the property (Figure 4):

- The main shear zone and the north shear zone strike N120 and dip steeply southwest. The width of these shear zones varies from 5 to 20 m on a length of more than 700 m.
- The north-easterly moderate shear zones and faults dip moderately NW. The NE fault crosscut the N120 main shear and can locally show fault breccia. The width of the NE shears varies approximately from 3 to 10 m.

The wall alteration of these shears zones is characterized by a strong carbonatization, silicification, chloritisation (sericite), albitization and hematization of the rocks (mafic lava, pillowed and amygdule's) close to the main shear (for more than 80 m, drillholes data). Regionally, there is a widespread moderate carbonatization and silicification around the deposit.

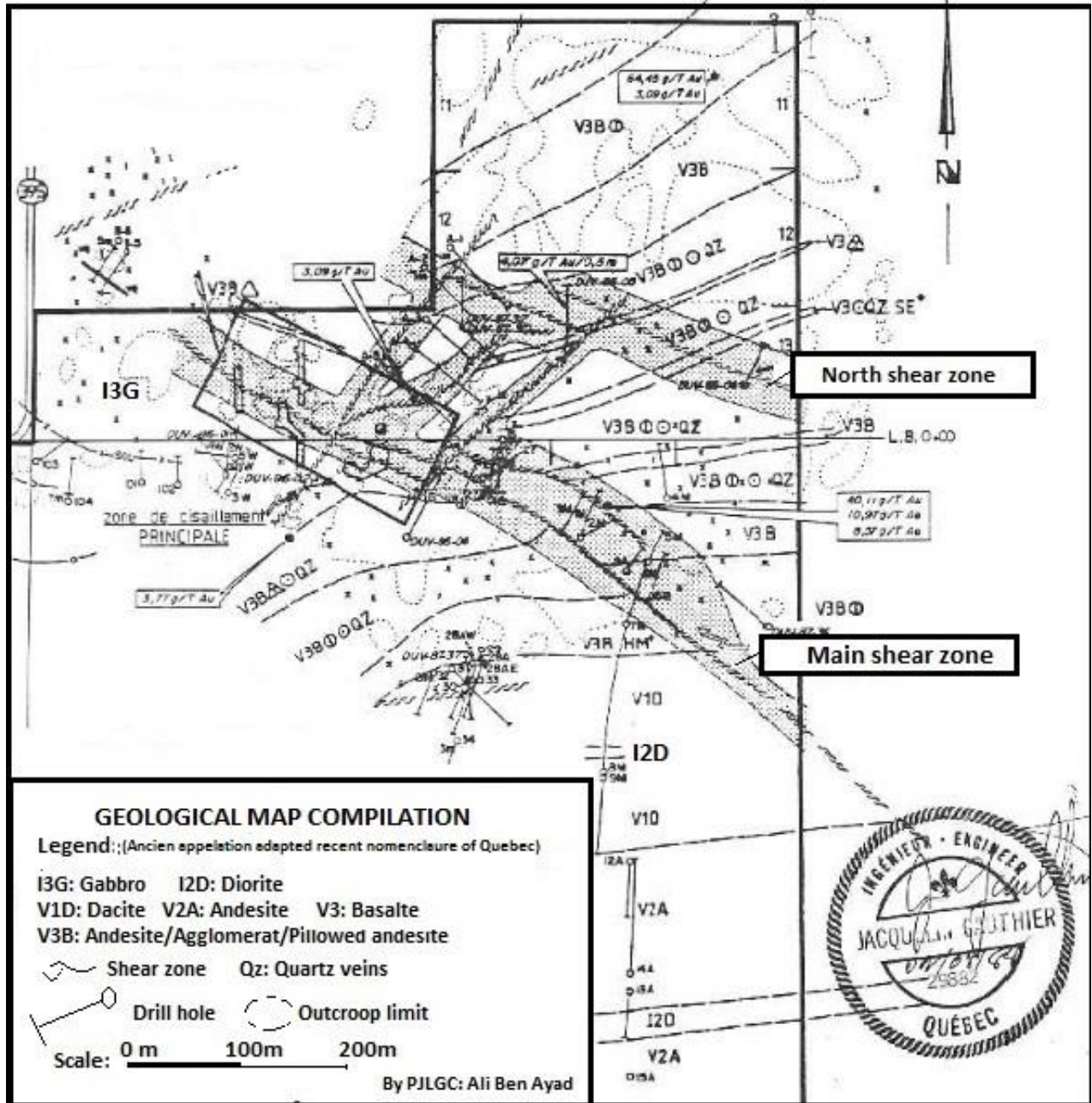


Figure 4 Property geological compilation map (After Sphinx Mining Company 1988, modified)



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Spatially associated to these shears and faults in the alteration zones, three major group of quartz veins and veinlets have been identified by different authors, and confirmed in our field trip, thus:

- The gently dipping and flat lying quartz veins and veinlets with thicknesses up to more than 20 cm at the surface, and locally 70 cm to 90 cm in drillholes (DUV-87-10, GM47594). Old description of 1946 mine workings mention flat veins ranging in width from 3" to 15" in a mining cross cut (Weber, 1951).
- The northerly-trending vertical quartz veins and veinlets steeply dipping to sub-vertical and range in width from 1 cm to 5 cm and locally up to 25 cm.

These two quartz vein's type are located in the foot-wall and hanging wall of the shear zones. The third quartz vein's type corresponds to veinlet, generally from 1 cm to 3 cm, located inside the main shear zone, particularly in the major N120 south shear zone. These veinlets are generally deformed and boudinated with a sub-horizontal stretching long axis.

### **6.2.2 Mineralization**

Although gold is the principal mineralization on this property, the bimodal volcanism making this region (mafic lava, felsic volcanic and tuff, abundance of pyrite and local showing of base metal) lets some possibility for the discovery of massif sulphide deposits.

Gold appears as native gold and/or probably associate with sulphides in the orthogonal quartz veins described above. These quartz veins are also strictly associated to the alteration zone of the shear zones which width is more than 60 m for the main shear and around 40 m for the NE shear (Drill holes data). However, the major 'economic' quartz veins are found in the immediate vicinity of these shears (less than 30 m in width). Besides the presence of disseminated sulfides in the altered wall of these quartz veins, no evidence of gold values associated to sulphides has been found yet. PJLGCI took one sample by separating the quartz veins from sulphides in volcanic rock. Assay results are pending.

The common sulphides in the auriferous quartz-carbonates veins and veinlets correspond to essentially pyrite and traces of chalcopyrite, sphalerite and rarely galena. These sulphides, which abundance varies from 1% to 10 % for the pyrite, with an average of 2-5%, are generally disseminated in a white to greyish more or less fibrous quartz with white milky carbonates or in the border of the quartz-carbonate veins. Locally, besides the chlorite-sericite, chromian micas (Fuchsite) and also tourmaline have been observed in the quartz-carbonates veins and/or in the altered wall for fuchsite (Drill holes data).

In the altered wall (carbonatization, silicification, chlorite and sericite with some ankerite and siderite) constituted by mafic lava, coarse grain pyrite is often present. This pyrite seems to be late. No gold values have been associated with this cubic pyrite.



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## 7 Exploration

PJLGI reviewed the various geophysical existing surveys (airborne, helicopter and ground surveys of Mag-EM, and IP) to help define complementary work and/or new drillhole targets. Our conclusion is that the data needs a geophysical compilation by an experienced geophysicist and a senior geologist.

### 7.1 Regional Scale

At the regional scale, the Quebec Ministry of Natural Resources (MRNFQ) did an airborne geophysical survey (Mag, EM) compiled in 1981. The survey shows clearly the regional NW-SE dextral shear on the Duvay Property and Grenadier Ouest Gold deposit (Figure 5). This regional shear is affected by ENE-WSW senestral faults which is visible on the high resolution survey map (Figure 6).

More recently a helicopter-airborne electromagnetic and magnetic survey was flown by Aeroquest Ltd. in January 2012 (Figure 7), on behalf of Tres-Or Resources Ltd. It covers the Duvay Property in Duvernoy and Dalquier townships. The survey is comprised of 1,434 line-kilometers of data acquired on a grid pattern of 100 m spaced traverse oriented east-west, controlled by 1,000 m spaced tie lines oriented north-south.

The original objectives of this survey were two-fold:

- Provide high resolution electromagnetic and magnetic data for the direct detection and delineation of sulphide-associated gold occurrences
- Facilitate the mapping of bedrock lithologies and structure which in turn influence the emplacement or hosting of economic mineralization.

According to Aeroquest Ltd, these objectives have been or are being met via their interpretation; the data has enabled both the mapping and delineation of controlling structures, and identification of anomalous conductivity suggesting sulphide mineralization. While it is not expected that quartz-vein type auriferous mineralization would give rise to discrete EM conductors directly, electromagnetic anomalies have been examined in order to locate any possible conductive sulphide deposits and any conductive faults or shears that could serve as conduits or host units for auriferous mineralization.

Four specific target areas representing anomalous conductivity coupled with geologic structure as interpreted from the magnetics have been identified as priority for ground follow-up. The recommendations have been presented confidentially to Tres-Or Resources (Figure 7, Aeroquest, 2012). This information is not found in a public document (GM) and they are not in our possession at the time of writing this report.





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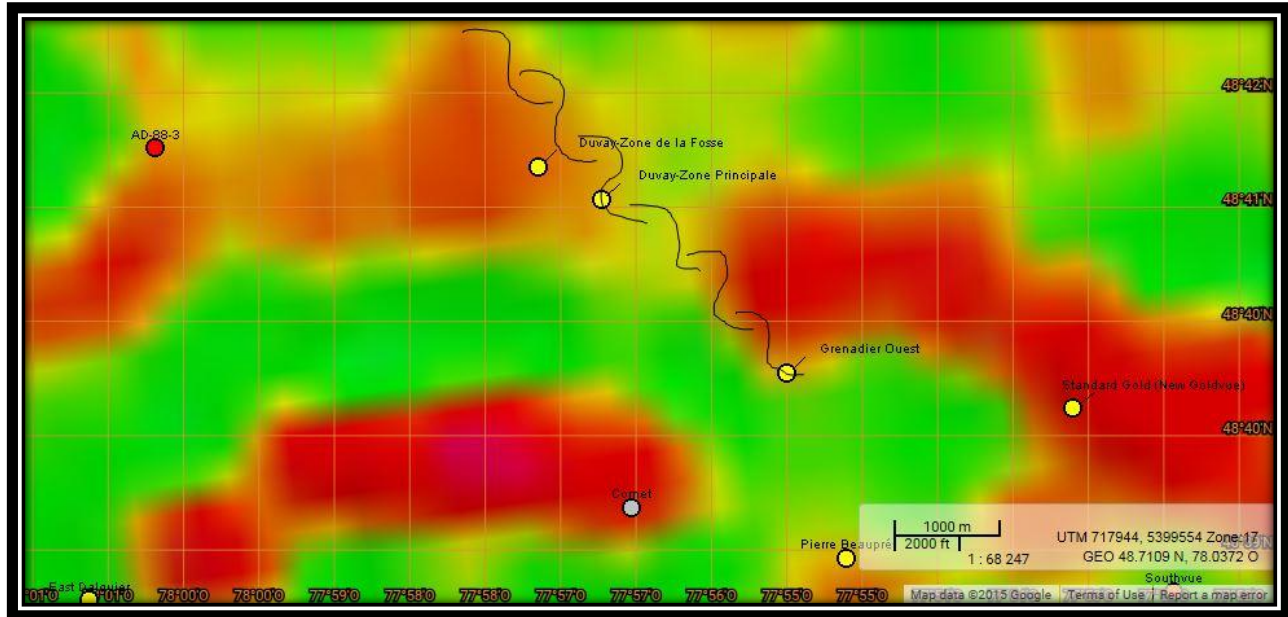


Figure 5 Vertical derivative total magnetic field, low resolution (SIGEOM, MRNFQ)

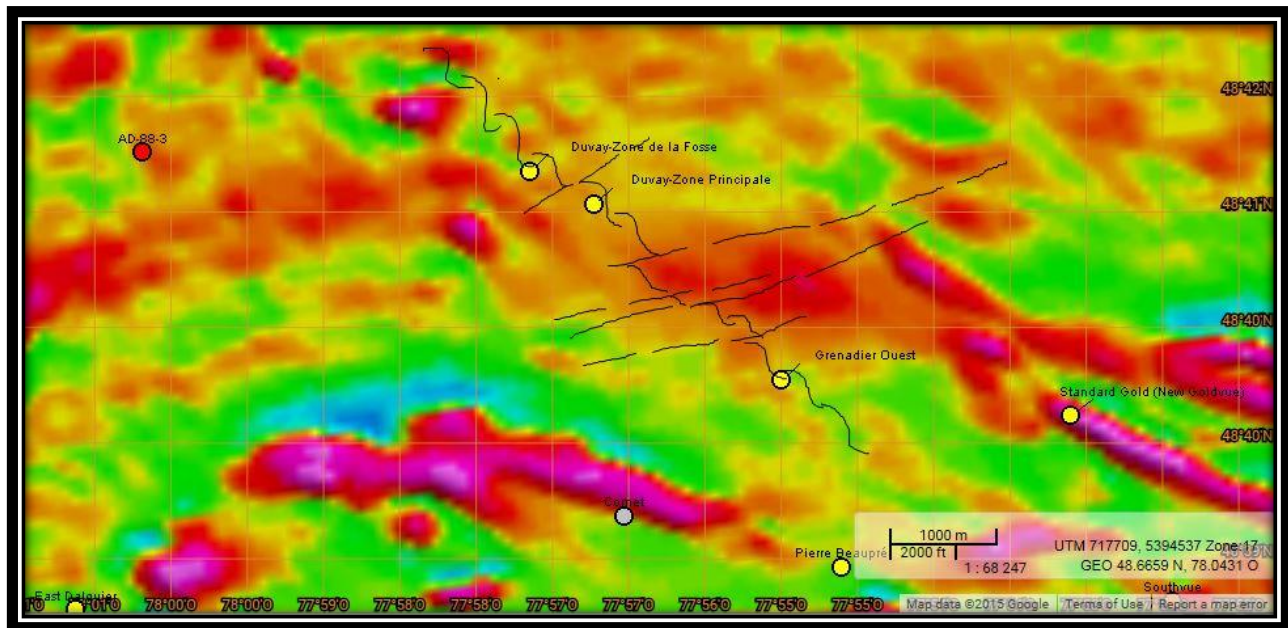


Figure 6 Vertical derivative total magnetic field, high resolution (Airborne Mag survey, SIGEOM, MRNFQ)

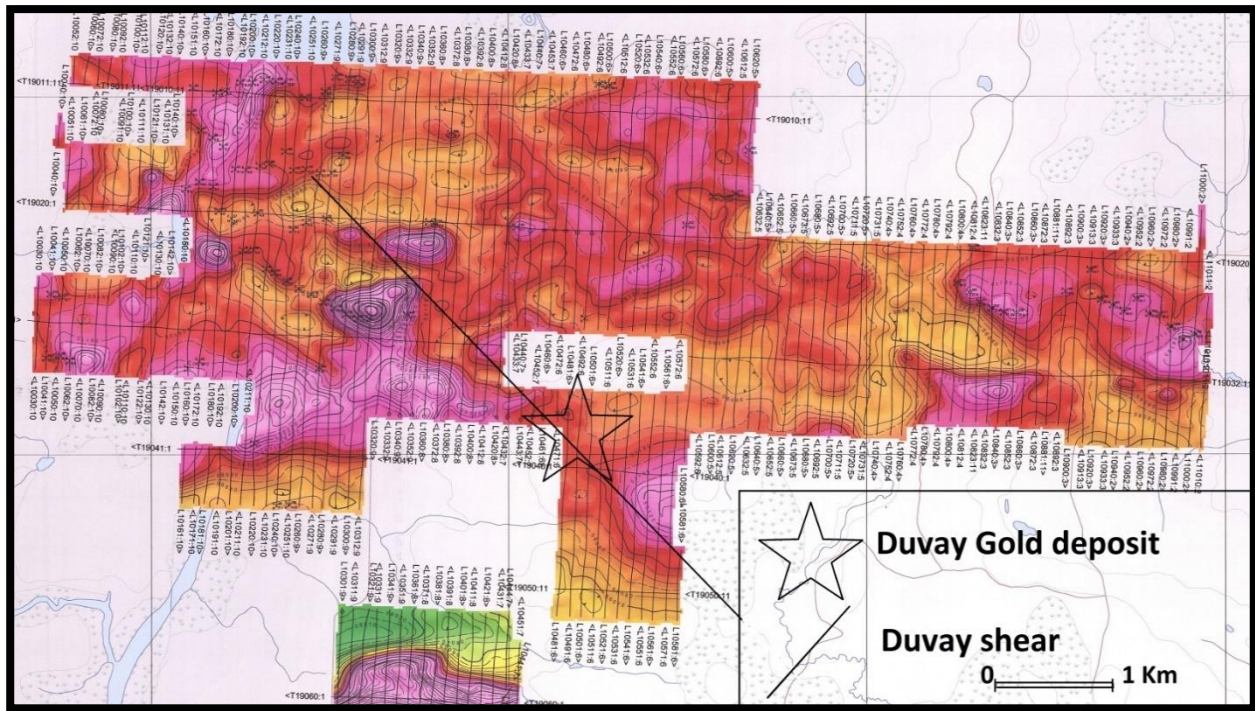


Figure 7 Total Magnetic Intensity map, by Aeroquest Ltd. in January 2012

## 7.2 At the Scale of Duvay Gold Deposit

Several ground geophysical surveys (Mag, EM-VLF and IP) have been done in the deposit areas, by different companies, since 1946 (Mag survey by Duvay Gold mining company). However, the oldest geophysical maps we could get in our geophysical compilation concerned Sphinx Mag-EM-VLF ground survey in 1985. IP seems to have been done in 1986, but no information is available.

In 2003, Globex Mining Enterprises did a Mag Ground Survey (GM 59878) on all their property. In 2004, an IP survey was done (GM 61333) on the Duvay deposit zone. Several IP anomalies (resistivity and/or chargeability) have been identified (Figure 8 and Figure 9) and several anomalies have been discovered. The overburden cover varies from 1 to several meters in the deposit area to over 25 m on the west and south east side of the property. The maximum investigation depth did not exceed 75 m (conclusion in GM61333).

No complementary work (and/or analysis, IP anomalies drilling, etc.) was found in this data compilation based on this IP survey.

In 2011-2012, a Mag ground survey was done on the property (area of the shaft on the four basic claims) by Tres-Or Resources (Figure 10).



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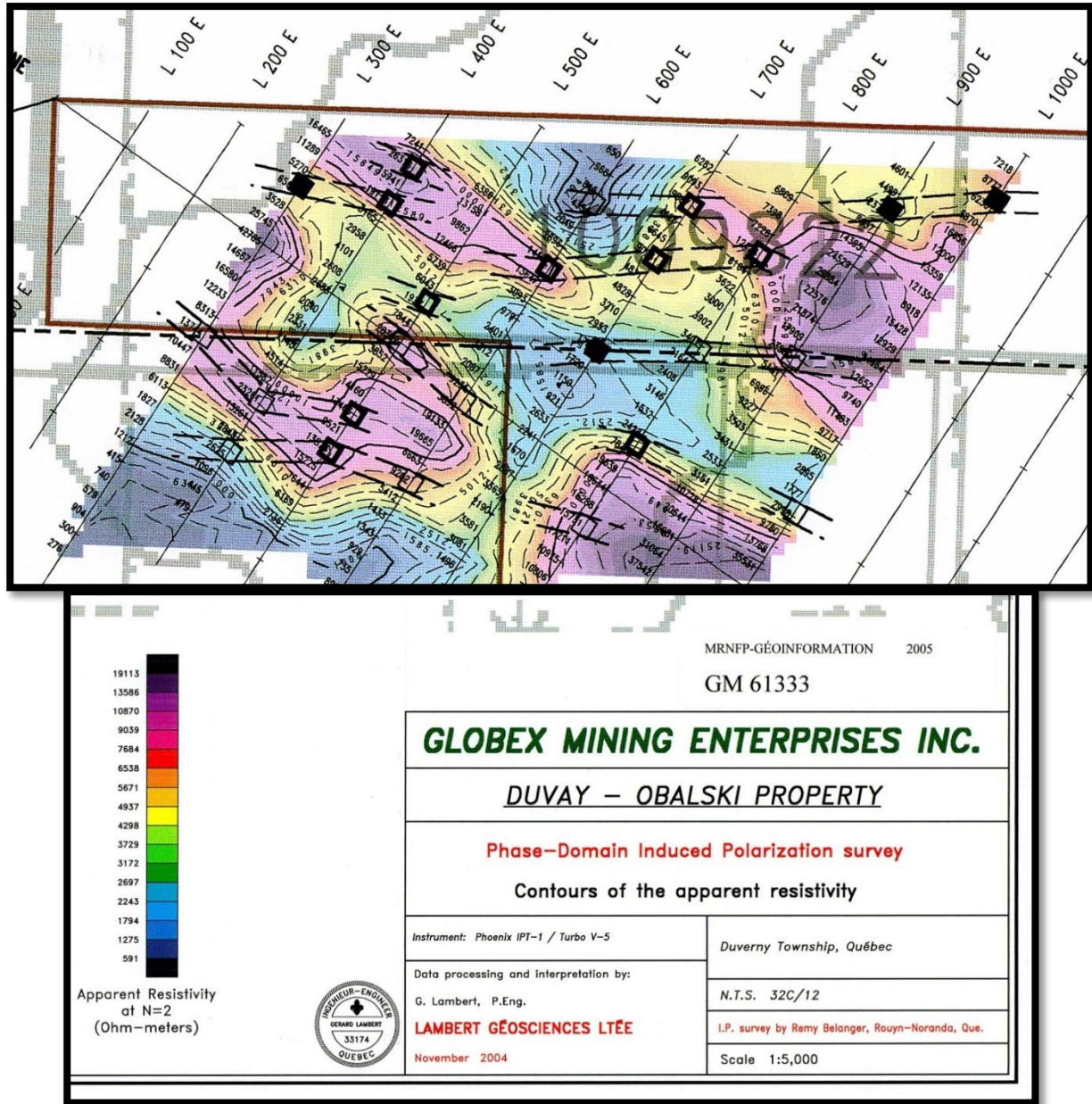


Figure 8 Map of the resistivity anomalies (Line spacing 100m) in the area of the shaft (Globex 2004).



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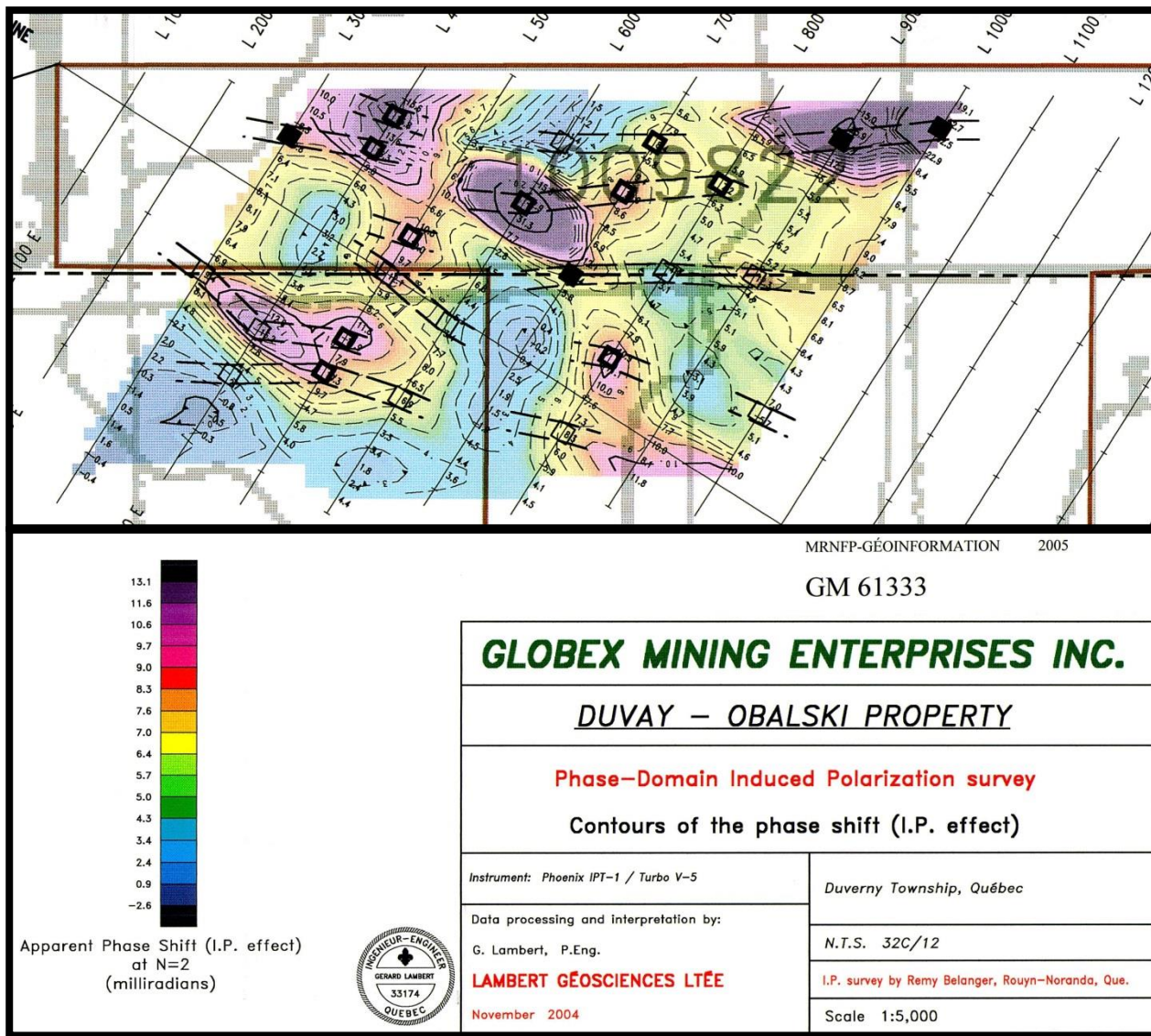


Figure 9 Map of the Chargeability anomalies (line spacing 100m) in the area of the shaft (Globex 2004)



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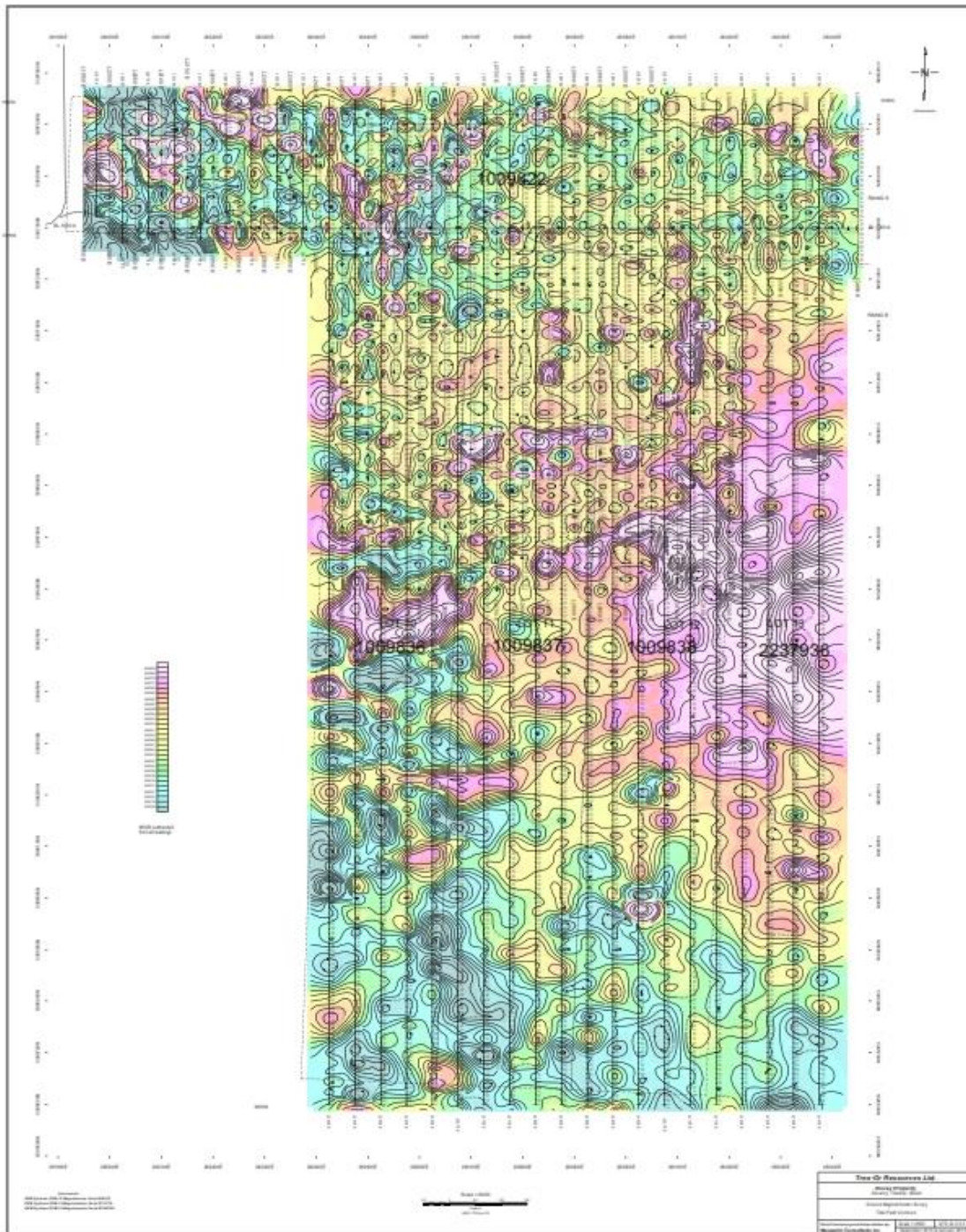


Figure 10 Mag ground survey of the Duvay covering the 4 basics claims (Tres-Or, 2011-2012)



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## 8 Drilling Database

Since April 2015, PJLGCI received technical material referenced from Tres-Or on behalf of Secova including many GMs containing drill logs to perform this geological compilation assessment. The material includes 4,502 files in 490 folders filling a total of 11 GB plus 1.45 GB and 250 MB of additional files from Tres-Or received in October 2015.

Many files received involved other nearby projects like Fontana and Eastmac optioned by Tres-Or from Globex Mining but not optioned to Secova. PJLGCI focused only on Duvay, the only option of Secova from Tres-Or. Some of the drill logs on Duvay are reported as missing. Most drill logs are available in PDF today.

Only one Geotic database file in Microsoft Access containing 878 drill logs is ready for 3D modeling, including 339 drillholes on Duvay. Only 256 drillholes of those 339 DH on Duvay have locations. None had geology. Only 232 drillholes of 256 carry samples. Of the 7267 samples registered in the database for Duvay, only 6770 have assays. Figure 11 below show the distribution of gold grade available in Duvay historical drillholes. This means that 36% of assays maybe missing in the current database for Duvay. A quick check of gold grades in the database indicate they match the logs in PDF.

*Table 8-1 Drill holes database Statistics*

878 DH in Geotic DB	
339/878 DH in Duvay	39%
256/339 DH in Duvay with location	76%
232/256 DH with samples	91%
with 7267 samples	
6770/7267 samples with assays	93%

Basically, Geotic is a logging system based on Microsoft Access. The data in the Geotic for Duvay has its drillhole names mixed up. PJLGCI recovered 119 DH names and corrected them for a quick verification. Tres-Or did 13 drillholes in 2011. They are not in the Geotic database. PJLGCI received a separate DWG file (drawing in 3D) with the trace of the drill holes and their names with no geology and no assays. It match the various historical maps and drillhole logs in PDF found in the GM's, including drillhole collar elevation which is not available in Geotic. Original assay certificates of old drillholes are unlikely to be found.

PJLGCI estimate the value of correcting the current Geotic database file to comply with the NI 43-101 at a very high price (perhaps \$50,000) and a significant loss of time (perhaps months). Without assay certificates, the NI 43-101 compliance will not be achieved for the historical data. For this reason, PJLGCI set the editing of a master drillhole database file in phase 2 of its recommendations. It would be very useful but it is not the top priority at the moment.



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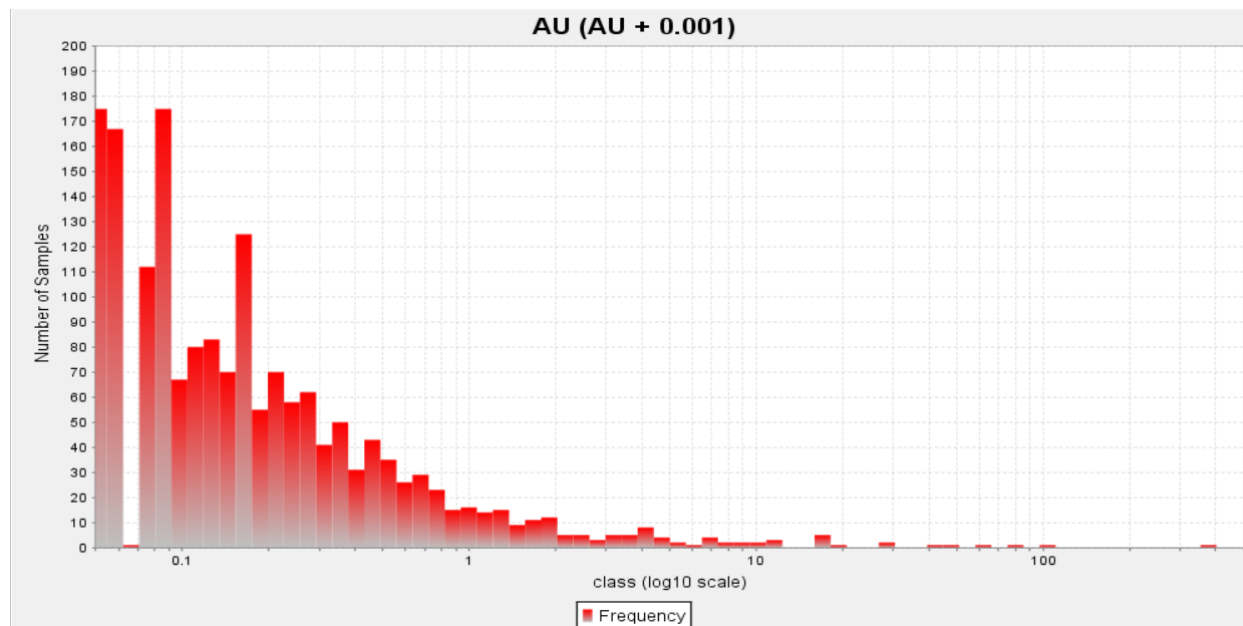


Figure 11 Gold grade histogram for Duvay



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## 9 Economic geology

### 9.1 Summary of Historical Exploration Program

Numerous discoveries of precious and base metal mineralization have been made in the Amos-Duverny-Barraute District since 1930's. Duvay Gold Project has been discovered in 1944 and various exploration programs have been completed by Duvay Gold Mines Company Ltd. between 1944 and 1948. These include diamond drilling, trench sampling and some geophysical survey. These led to the discovery of three gold-showing (GM 8214-A and 10028) associated to a major shear zone oriented N300 which best values were (GM8207 and GM8214) : 469,8 g/T over 0,35 m; 76,8 g/T over 0, 48m; 14 g/T over 0, 66m et 5,89/T over 1, 52m.

Beside surface exploration programs, underground exploration mining was described by Weber and Latulippe in 1964 (RG 109) as follow:

*“During the summer of 1946, a bulk channel sample weighing 40 tons was taken across approximately 40 feet of the main mineralized zone near the centre line of lot 10, 200 feet south of the range line. The sample was tested at the sampling plant of the Quebec Department of Mines at Val d'Or. It assayed 0.207 ounce of gold per ton.*

*Following this test, Duvay, in conjunction with Dorvue Mines Ltd., sank a two-compartment shaft in the lot 13, range IX (see p. 58).*

*A total of 493 feet of crosscutting, 381 feet of drifting and 52 feet of rising were completed. The gold was found to be localized in thin stringers, and the tenor was not sufficiently high to allow mining of the whole zone or selective mining of the small veins. Operations were suspended in February 1948, and the property has been inactive since that date (to 1964)”.*

The exploration programs completed in 1987 by Sphinx Mines Company Inc. is already described in Section 5, History of the Duvay Project. In 1987-88, the exploration program was about \$2 million and included 65 700 m<sup>2</sup> of mechanical stripping, 10 400 feet (3 167 m) of percussion drilling, 7 718 m of diamond drilling (40 drill holes) and 75 bulk samples totaling 20 000 metric tonnes. All the results of these exploration programs are presented in the compilation report of 1988 (GM 42597).

Since the Sphinx compilation of exploration works in 1988, no important exploration program was conducted on the Property.

### 9.2 Highlights of the gold value on the property

The best values of the Duvay Gold deposit correspond to (Compiled by MRNFQ, Quebec government Department of Natural Resources):

- Drillholes (GM 66473): DV008-11: 5,22 g/t Au over 1 m; DV012-11 : 83,19 g/t Au over 1 m (visible





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gold in one quartz vein).

- Selected samples (GM 66275): 30309-3643 : 130 g/t Au and 45,8 g/t Ag; 30309-3647 : 199 g/t Au, >100 g/t Ag, 4,55% Cu and 0,75% Zn.
- Channel samples: 36937 to 36941 : 3,56 g/t Au over 4,02 m.
- Selected samples (GM 66263): DU4246 : 9,95 g/t Au; DVLLD2 : 3,01 g/t Au, 5,2 g/t Ag, 1,31 % Cu and 1,61 % Zn (around 500 m to the SE, Mallich-1 showing ?).
- Drillholes (GM 64361) : DU-08-01 : 4,16 g/t Au and 0,32 m.
- Bulk samples (GM 47569) : 86-1 : 1,16 g/t Au (Sample of 21,3 tons, 2 tests); 86-2 : 3,99 g/t Au (sampling of 122,8 tons, 4 essais); 86-31 : 3,36 g/t Au (sampling of 13,7 tons, 1 test).
- Drillholes (GM 8214) : 1 : 391,4 g/t Au over 0,4 m; 4 : 76,8 g/t Au over 0,5 m.
- Drillholes (GM 47594) : DUV-86-04 : 16,7 g/t Au over 1,3 m; DUV-86-06 (740 m to the east) : 4,1 g/t Au over 1,2 m; DUV-86-08 : 5,6 g/t Au over 0,5 m; DUV-87-10 : 4,25 g/t Au over 1,5 m; DUV-87-25 : 27,2 g/t Au over 1,1 m.
- Drillholes (GM 49068) : DUV-88-20 : 7,53 g/t Au over 1,5 m; DUV-88-24 : 11,55 g/t Au over 1,5 m; DUV-88-112 : 8,6 g/t Au over 1,5 m; DUV-88-132 : 9,23 g/t Au over 1,5 m; DUV-88-147 : 10,31 g/t Au over 1,5 m; DUV-88-162 : 12,98 g/t Au over 1,5 m.

A gold values data compilation (GM47569) done by Sphinx Mining Company in 1988 shows the following:

*“ The best gold results of the 48 drillholes of Duvay Gold Mines Company whom operate on this deposit since its discovery in the 1930’s until an attempt of underground mining works in 1946, are:*

- *(GM8207 and GM8214) : 469,8 g/T over 0,35 m; 76,8 g/T over 0,48m; 14 g/T over 0,66m et 5,89/T over 1,52m*
- *Other gold values less spectacular have been intersected by Semac mining company in her 13 drillholes (GM313) :4,1 g/T over 1,95m; 4,8 g/T over 1.1m and 11/g/T over 0,42m)*
- *The first Sphinx exploration Drillholes (Rivest, 1987) intercepts similar gold values, the more interesting correspond to : 16,7 g/T over 1,30m; 5.1 g/T over 1.30m; 4.1 g/T over 1.30m; 3.4 g/T over 0.80m”*

Apart from bulk sampling, Tres-Or’s preliminary drill program comprised 1 234.5 m in 13 holes (NQ core). The best analytical results include 83.194 grams per tonne (g/t) gold (Au) over 1 m and 5.217 g/t Au over 1 m as well as 8 other intervals between 0.420 g/t Au and 1.930 g/t Au over 1 m intervals.



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### **9.3 Historical Mineral Resources Estimate**

There is no NI 43-101 compliant technical report with mineral resources evaluation. The historical technical report about potential mineral resources called “Reserves” have not been found for Duvay yet. The only mineral resources estimation documented are signaled by:

- The Ministry of Natural Resources of Quebec (MRNFQ), as follow:

Commentary - production	: In 1987, a plant on site was used to process 75 bulk samples for a total of 20 000 tonnes.
Reserve in tons	: 6 657 187
Reserves category	: Probable reserves
Reserves declaration	: 1991-03-01
Reserve reference document	: Canadian Mines Handbook 1995-96, p. 350.
Reserve commentary	: These reserve were estimated at 1 Mt of 7,47 g/t Au in 1987 and at 6,66 Mt probable ("drill indicated") of 2,06 g/t Au in 1991. The more recent reserve estimation (1991) is based on a grade average of 2,06 g/t Au. The importance of the visible “nuggety gold” make difficult the evaluation of the grades. These reserves correspond probably to the evaluation of the two zones, thus the Main deposit and “Zone de la fosse” of Duvay.
Diffusion date	: 2014-10-10

**The Mining journal**, published as follow:

## **Sphinx heap-leachs gold in Quebec**

*By: by David Robertson*

VAL D'OR, Que. 1990-09-17

*Mention heap leaching and a person immediately thinks of the southwestern United States, where large tonnage, low-grade deposits are being mined year-round to yield relatively inexpensive gold. North of this established mining community in northwestern Quebec, 10 miles from the town of Amos, a junior mining company is trying to prove*



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*heap leaching can be just as successful as it is south of the border, despite forced shutdowns for the winter months.*

*The junior, Societe Miniere Sphinx (ME), began leaching 40,000 tons from its Duvay deposit in the spring of this year, and in mid-August poured its first gold, a dore bar containing 300 oz. gold and 200 oz. silver. A second pour was near when The Northern Miner visited the project in early September.*

*"We thought it would be interesting," President Michel David said of the property which he and an associate, Gilles Laverdiere, optioned from a private prospector in 1986. Stripping of the property's relatively thin overburden revealed a mineralized area about one mile long and 700 ft. wide.*

*David said past exploration work at the property identified large, open gold zones within a 1,000-ft.-wide shear zone of altered basalts. "The alteration has been extensive with intense carbonization and the emplacement of horizontal and vertical gold-bearing quartz veins," he said, explaining that a "nugget effect" presented certain sampling problems.*

*In 1989, the company began construction of a 100,000-ton-capacity heap leach pad and a 400,000-ton-per-year Merrill-Crowe treatment plant. In October of that year, the company mined and crushed about 50,000 tons of material; it then loaded 40,000 tons of that total on to the pad for test leaching.*

*Although laboratory testing indicated a recovery rate of 70-75%, David said a 50% recovery is expected for the 40,000-ton test leaching this year.*

*"The idea this year was to prove that leaching works and get some cash flow out of it for next year," David said of his 24-hour, 7-day-per-week leaching operation. The project's estimated production cost is \$10-\$12 per ton.*

*Four zones have been uncovered on the property. The discovery zone, or zone 1, contains proven reserves of 900,000 tons to a depth of 100 ft., David said.*

*For 1991, Sphinx plans to load half of the known zone 1 reserves, 450,000 tons, on a new pad. Trucks will be used to load the material instead of a conveyor belt system. Drip tubes will replace the current sprinkler system of cyanide-solution distribution. Project workers learned this year of the need to agglomerate. And David is optimistic his crew has learned enough to overcome channelling difficulties.*

*In addition, the mill in 1991 will function with a carbon-in-pulp system, which will enable the company to double its milling capacity to 800,000 tons per year '.....*

*A feasibility study carried out on the Duvay heap leach gold project north of Amos, Que., concludes that total costs would be \$10.43 per ton, Societe Miniere Sphinx (VSE) reported.*



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*Direct recovery costs for work such as crushing, stacking, leaching, gold-ore stripping and gold refining are \$6.69 per ton, President Michel David said. Direct mining costs such as blasting, loading and transport for crushing account for the balance.*

*David said the study, prepared by Casmyn Engineering, proposes a 504,000-ton-per-year operation with a stripping ratio of 1-to-1.*

*Current reserves stand at 6.7 million tons grading 0.06 oz. gold per ton. Recovery is estimated to be 70%. Mining costs, David said, are about \$200 per oz.*

*Sphinx operated the project in 1990 during the summer months and poured its first bar in mid-August from the leaching of 40,000 tons of material.*

End of Press Release.

In 1995, Casmyn converted to a mining company based in South Africa. Casmyn later reportedly developed mines in Zimbabwe. The technical reports done by Casmyn for Sphinx are not available. There are no known technical documents that explains how those estimates were done in 1987 and 1991. Sphinx did not pursue the heap leach pad mining on Duvay after 1991. Gold price was going down from about \$360 in 1991 to \$256 in 1999. Most gold mining projects were stopped during that period until the commodity prices surged again between 2003 and 2012.



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## 10 Conclusions and recommendations

### 10.1 Conclusions of the geological compilation assessment of the Duvay Project

The conclusion of this preliminary geoscientific compilation allows first to make an inventory of the available material of reference on Duvay. PJLGCi determined how to use this data to value the Duvay Property and complete future exploration work.

#### 10.1.1 Geology of the deposit

The only geological map of the project was done by Sphinx Mining Company by E. Rivest in 1985. It has to be completed in some areas using structural geology to resolve problems of lithology.

- Along the main shear, a magmatic facies (Diorite-microdiorite intrusive?) was intersected in the *shaft area*, but it was never mapped. This intrusive (Dike) was intersected in several drillholes. It is highly altered, but no sulphide have yet been reported in it.
- Along the main shear zone, in the *northwest*, the existence of another intrusive (Gabbro) has been mapped, but the interpretations of its limits are not clear. Some short drillholes in this area show the existence of gold values in the area of the gabbro.

These hard rock (Diorite and gabbro) are favourable to the existence of important quartz veins as known in many gold deposits in the region, east of Val d'Or (Figure 12), or as it is known in the conceptual model in Figure 13 below.

**Cautionary note:** It is worth mentioning that while Duvay geology bears similar characteristics with other gold mine in the region (gold in shear zone, vertical and flat quartz vein with visible gold, presence of sulphides (3-5%), alteration (carbonatization and silification), proximity to intrusive (heat source), etc.) the part of the Duvay mineralization visible in the existing data is not as powerfully developed as in known mines nearby: Giant, Beliveau (Pascalis), Beaufort, etc. For instance, the centimetric veins at Duvay are metric in existing gold mines. The highly variable gold grades (nugget effect) are generally higher in existing gold mines. Similitude with existing mine geology does not imply that Duvay could become a mine.

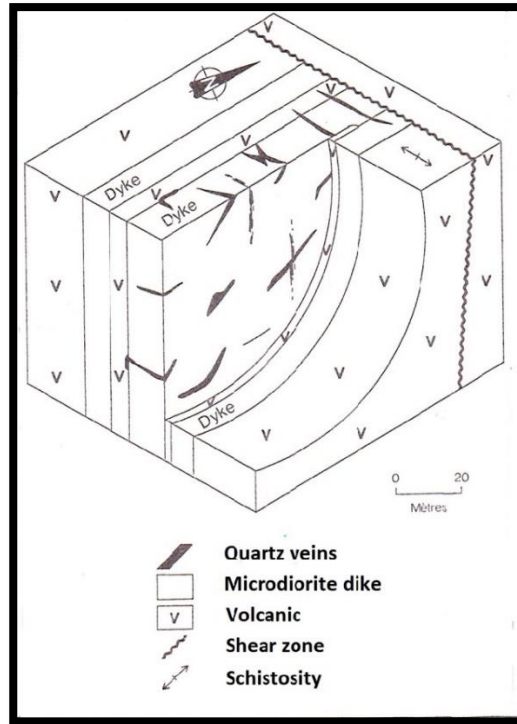


Figure 12 Example of “Lucien Beliveau” Mine. Mineralization is located

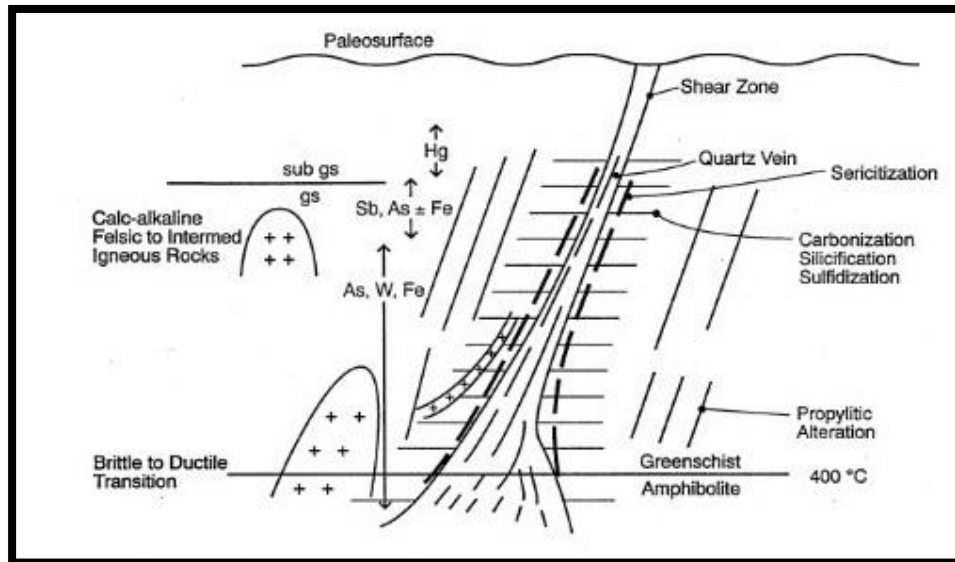


Figure 13 Schematic geological cross section of a low-sulfide gold deposit



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### 10.1.2 Drilling

Considering the relatively large number of drillholes on Duvay (339) and underground exploration workings plus the various historical geophysical survey and the narrow veins style of the gold bearing structures, additional detailed geological compilation work (phase 1) is required to identify valid drillhole targets (phase 2).

### 10.1.3 Geophysics

The different airborne and ground geophysics surveys (Mag, EM and IP) have not been fully used. The shear is clearly identified at different scales (Airborne surveys and ground surveys) and can be followed regionally, with local complication which can have important incidence on exploration along this shear.

## **10.2 Recommendations**

Following the conclusions of this historical geoscientific compilation mentioned above, we recommend the following as a priority to complete a geological compilation:

Phase 1 (Sub Total budgetary estimated cost of \$93 109):

- Continue the geoscientific compilation by an analysis and synthesis of the drilling (PDF files) and surface geological data combined with the geophysical data at an estimated cost of \$24 000,
- Compilation of all the existing geophysical data (Airborne and ground surveys) by an experienced geophysicist, interpretation with the collaboration of a senior exploration geologist at an additional estimated cost of \$22 770,
- A topographic survey is required to drape all the geological and geophysical maps to fit the drillhole collars. This survey is estimated to cost \$11 500,
- Carry out a new geophysical survey on the deposit area. The IP survey by Globex in 2004 highlights several geophysical anomalies (Chargeability and resistivity) but it lacks depth (75m) and details (100 m line spacing). We recommend an IP 3D survey (OreVision 3D) on the deposit area to a depth of at least 200 m at an estimated cost of \$27 939,
- Lines must be cut for the IP survey over a 825 m length with a 50m line spacing to the limit of the property for a total of about 10 km at an estimated cost of \$6 900.

Phase 2 (Sub Total budgetary estimated cost of \$906 550):

- Depending on the results of the IP 3D survey, the best anomalies considering their geological environment, will be recognized by diamond drill holes. Ten drillholes (5 x 400m and 5 x 250m), totaling 3 250 m will be used for this recognition. The estimated cost of drilling is **\$750 950** all included (*drilling, sampling, assaying, logging*) from drilling to 3D database at \$200 per meter. This



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item represent 75% of the budget recommended but it is an amount that depends on the results of the entire program. It is likely to be highly variable (lower or higher).

- A drilling database has to be created to produce drill sections in 3D using all historical data available. The estimated cost is \$144 000. The 3D geological sections combined with topographic and geophysics survey on surface are necessary to :
  - Understand the geology of the deposit area,
  - Edit the mineralization envelope to evaluate the mineral resources

The total budget for exploration for Secova at this stage of the Duvay project is estimated to be about \$1 million, including 75% of the budget for drilling in phase 2 of the program. This could happen next winter.

Creating a new drillhole database is costly in time and money at \$144 000. It will take at least one month to accomplish this task. However, if we consider that it is likely to recover historical drilling results from 339 holes averaging 100m in length at \$200 per meter (all included today: drilling, sampling, assaying, logging), the replacement value for this information is over \$7 million. However, this historical data, while useful for exploration work planning, will not comply with the NI 43-101 for lack of assay certificates and so on. But even if we recover 60% of the historical data to serve the current project exploration program, it is well worth the cost of making the database.

In fact, if we add up the drilling, the surveys, the mine workings, overburden stripping, bulk sampling, etc., the replacement value for the Duvay property data is probably over \$50 million. This is what it would cost to bring a virgin property of this type from new discovery to the level of knowledge we have today. PJLGCi thinks that looking at this project in that perspective makes the task of Secova more attractive as long as the results warrant the investment at every step. It is also possible to be much more efficient in exploration today but basic good geology is relatively inexpensive and highly valuable. This is the reason for the work order between phase 1 and 2. See Table 10-1 below.





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Table 10-1 Exploration budget

Work Phases	DESCRIPTION OF PROPOSED WORK	UNIT QUANTITY (Km, meters or days)	UNIT COST (\$)	ROW COST (\$)
<b>PHASE 1</b>				
	<b>Realization of the geological compilation</b>			
	Continue the geoscientific compilation	15 days	\$ 1,600.00	\$ 24,000.00
	<b>Total compilation</b>		<b>\$ 24,000.00</b>	
	<b>Re-interpretation of all existing geophysical data concerning the property</b>			
	(Data aero Mag & EM) data processing + Interpr.			\$15,000.00
	1 Senior exploration geologist	3	\$ 1,600.00	\$4,800.00
			Contingencies 15%	\$2,970.00
	<b>Total geoph. Compil.</b>		<b>\$22,770.00</b>	
	<b>Topography survey</b>			\$10,000.00
			Contingencies 15%	\$1,500.00
	<b>Total Topo. Survey</b>		<b>\$11,500.00</b>	
	<b>Line cutting</b>			
	Lines at a spacing of 100 m, total length 5 km	5	\$ 600.00	\$3,000.00
	Intermediate lines at 50 m, total length 5 km	5	\$ 600.00	\$3,000.00
			Contingencies 15%	\$900.00
	<b>Total line cutting</b>		<b>\$6,900.00</b>	
	<b>IP 3D survey (Ore Vision 3D)</b>			
	OreVision 3D to explore 200m of depth	9.9	\$ 1,650.00	\$16,335.00
	Interpretation + reporting			\$2,500.00
	Mobilization-demobilization	1.5	\$ 3,640.00	\$5,460.00
			Contingencies 15%	\$3,644.25
	<b>Total IP 3D</b>		<b>\$27,939.25</b>	
	<b>Total Phase 1</b>		<b>\$93,109.25</b>	
<b>PHASE 2</b>				
	<b>Diamond drill holes (DDH)</b>			
	Recognition of the geophysical anomalies (DDH)	3250	200	\$650,000.00
	Drilling data integration and analysis in Gems	10	300	\$3,000.00
			Contingencies 15%	\$97,950.00
	<b>Total drilling, etc.</b>		<b>\$750,950.00</b>	
	<b>Gems database</b>			
	Computer log from PDF	330 DRILL	150	\$50,000.00
	Import geophysic surveys and geology			\$10,000.00
	<b>Creation of 3D geological model</b>			
	interpretation of the geology on sections			\$54,000.00
	3D model			\$20,000.00
			Contingencies 15%	\$21,600.00
	<b>Total Gems</b>		<b>\$144,000.00</b>	
	<b>Total Phase 2</b>		<b>\$906,550.00</b>	
	<b>TOTAL PHASE 1+2</b>			<b>\$999,659.25</b>
	* Drilling including cost of geologist, technicien & assays			