

TSX-V: MEX

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**AIRBORNE RESULTS REVEAL MAJOR GOLD ZONE
SIGNATURE AND NEW DRILL TARGETS ON SIAN/PRASO, GHANA**

- The airborne geophysical results, as interpreted by Geotech Airborne Limited, demonstrate that Sian and Praso are well located on the main NNE and ENE trends that host gold deposits elsewhere on the Ashanti Gold Belt;
- The highest priority drill target identified by Geotech Airborne Limited shows the signature of a significant gold alteration zone, similar to those that control major deposits on the Ashanti Gold Belt, thereby confirming significant potential for a major discovery on Sian and Praso;
- The second priority drill targets identified by Geotech Airborne are on two resistive NE to NNE trends associated with ENE-trending aeromagnetic lineaments, indicating a possible structural connection to Newmont's 10 million ounce Akyem gold deposit;
- The airborne geophysical interpretation indicates that Sian/Praso priority drill targets are within a broad NNW-trending zone with a high potassium to thorium ratio in the radiometrics, possible demagnetization as demonstrated by the aeromagnetics, and discontinuities in the VTEM conductors. These zones in the volcanics are also associated with gold mineralization and geochemical anomalies.

TORONTO, CANADA: Tuesday, August 31st, 2010: Midlands Minerals Corporation ("Midlands" or the "Company") is pleased to announce that the interpreted airborne geophysical results on the Sian and Kwahu Praso gold properties in Ghana reveal structures which could connect Sian and Praso to major gold deposits on the Ashanti Gold Belt.

The aeromagnetic geophysical data show that Sian and Praso contain a number of major ENE-trending lineaments, interpreted to be segments of crustal-scale faults and shear zones possibly connected to, and similar to, those that control major giant to world-class gold deposits on the Ashanti Gold Belt. Although regional data are sketchy, and lineaments are deflected around rigid granite intrusions, it appears likely that the lineament in the southern part of Sian and Praso represents a splay from the lineament at Newmont's Akyem with 10 million ounces and that the lineaments in the central part of Sian and Praso represent splays from the lineament at AngloGold Ashanti's Obuasi with 35 million ounces of gold. Existing regional data shows such structures are highly gold prospective on the Ashanti Gold Belt.

An integrated helicopter-borne geophysical survey of the Sian and Kwahu Praso Properties, Ghana, flown by Geotech Airborne Limited in March/April 2010, involved acquisition of aeromagnetic, radiometric and versatile time domain electromagnetic (VTEM) data. When combined with the interpreted geology, and the results of ongoing gold-in-soil geochemistry, the geophysical results should significantly enhance the gold prospectivity of Sian and Praso and

highlight a number of promising gold targets. These results provide a much improved platform for the ongoing drilling program on Sian and Praso, as shown in the map below.

Please click the link below to view the map:

http://www.midlandsminerals.com/press_releases/images/Sian_Kwahu_Praso_Survey_Area_August_2010.pdf

Midlands planned a 20,000 metre drilling program, has been drilling on Sian since February 2010, and expects to have added ounces to the 400,000 ounce resource, which is NI 43-101 compliant. The Company plans to provide a “midterm report” to shareholders with revised resource estimates showing results of the drilling done as at September 30, 2010. About 9,000 metres have been drilled to date. Current diamond drill holes are spaced 50 metres apart and results are expected to be in a measured category or better.

Please click the link below to view a table of priority target zones:

http://www.midlandsminerals.com/press_releases/images/Sian_Praso_Targets_30AUG10.pdf

The aeromagnetic data also indicate the presence of NNW-trending cross structures, which are gold controls elsewhere in the Ashanti Belt. Importantly, two of these faults, immediately east of the granite intrusion appear to define a low-magnetic zone, which may represent a demagnetised zone due to intense gold-related alteration. Airborne potassium and potassium/thorium anomalies broadly coincide with this interpreted demagnetised zone and with segments of the ENE-trending lineaments, as do anticlinal axes, arguably one of the most robust geological controls on gold deposits worldwide. There are also strong gold-in-soil anomalies that are broadly coincident with the radiometric anomalies and major lineaments.

In combination, the geophysical, geochemical and geological data should define a number of zones of conjunction of critical gold-controlling factors that represent superior diamond drill targets. These are shown on the attached map. Of particular interest is that the known Esaase (Sian) gold deposit, with a current NI 43-101 indicated resource of 400,000 ounces of gold grading 2.3 g/t (excluding current drilling), would rank only a second order target on the basis of the new geophysical data from the VTEM Airborne survey.

Midlands’s team is working to bring together the VTEM geophysical interpretation with the geology, gold-in the-soil, and geochemistry, and the Company is currently adjusting its diamond drilling program on Sian as a result of this new and exciting information.

Kim Harris, CEO of Midlands Minerals, stated “the Company is entering a most exciting stage of its exploration program at Sian/Praso, with a number of new high-quality targets defined by the recent airborne survey. The coming year promises to be a significant one for the Company.”

Sian is a fully permitted past gold producer with a 30 year renewable mining lease, an existing CIL plant that can be re-commissioned within a 12 month period, and all infrastructure in place.

The integrated geophysical interpretation of the Sian/Praso helicopter borne versatile time domain electromagnetic (VTEM) survey was carried out by Qualified Geophysicists from Geotech Airborne Limited, under the leadership of Dr. Magdel Combrinck, PhD, Senior Geophysicist.

ABOUT MIDLANDS MINERALS

Midlands is a growth oriented and value based gold exploration company operating in Ghana and Tanzania, two stable countries with a history of gold mining. Midlands' top priority project is the fully permitted Sian gold project in Ghana. The Sian property contains Esaase and Ampeha, two previously producing open pit mines with a resource with significant growth potential. Midlands' contiguous Kwahu Praso project, which was once part of Sian, contains extensions of the Esaase and Ampeha trends. Sian and Praso are just 30 kilometres northeast of Newmont Mining's +8.7 million ounce Akyem gold deposit. Midlands also holds highly prospective licences for gold and diamonds in the Lake Victoria Goldfields in Tanzania.

The Company has a highly qualified management and technical team with broad African experience and extensive experience in the countries in which the Company operates. For more information on the Company, please visit Midlands' website at www.midlandsminerals.com.

On behalf of the Board

Kim Harris
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The TSX Venture Exchange has not reviewed and does not accept responsibility for the adequacy or accuracy of the content of this news release.

Certain statements contained in this news release constitute forward-looking statements. Such forward-looking statements involve a number of known and unknown risks, uncertainties and other factors, which may cause the actual results, performance or achievements of the Company to be materially different from actual results and achievements expressed or implied by such forward-looking statements. Forward-looking statements consist of statements that are not purely historical, including any statements regarding beliefs, plans, expectations or intentions regarding the future. No assurance can be given that any of the events anticipated by the forward-looking statements will occur or, if they do occur, what benefits the Company will obtain from them. These forward-looking statements reflect management's current views and are based on certain expectations, estimates and assumptions which may prove to be incorrect.

The Company adds a cautionary statement to the effect that the potential quantity and grades referred to in this press release are conceptual in nature. There has been sufficient exploration to evaluate a mineral resource. However, the Company is uncertain if further exploration will result in a mineral reserve. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date the statements were made. Readers are also advised to consider such forward-looking statements while considering the risks inherent in the business of mineral exploration. For more information, investors should review the Company's filings that are available at www.sedar.com.