REPORT N2199PE06

PETROLOGY OF THREE SEDIMENTARY ROCKS

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30 November 2006

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Attention: Paul Ellison

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YOUR REFERENCE:	Email of 17 November 2006
MATERIAL:	Diamond Drill Core
SAMPLE IDENTIFICATION:	AR16, AR17 and AR18
DATE RECEIVED:	23 November 2006
PROJECT MANAGER:	Frank Radke

Frank Radke
Senior Mineralogist

FR : mb

1. INTRODUCTION

Three diamond drill core samples were submitted by Paul Ellison of Aldershot Resources Ltd for petrographic examination.

2. PROCEDURE

A thin section was made of each sample and examined with petrographic microscope. Mineral proportions were visually estimated.

3. PETROGRAPHIC DESCRIPTIONS

These three samples consist of immature detrital sediments containing detrital quartz grains in an argillaceous matrix. In sample AR16 and AR18 the argillaceous matrix is thought to have been largely altered to sericite. Sample AR18 shows quartz veining, which is probably associated with the sericitic alteration. Sulphide mineralisation occurs with the quartz veining as does minor possible topaz. A possibly metamict, radioactive mineral was noted as disseminations in AR16 and as a marginal intergrowth to sulphide mineralisation in a quartz vein in sample AR18.

The individual petrographic descriptions follow.

SAMPLE: AR16

ROCK NAME: Sericitic sandstone

HAND SPECIMEN: This is a massive, medium grey rock with a fine-grain size containing disseminated white patches up to about 2mm in size. One end of this core interval has an altered, yellowish orange discoloration. The thin section was cut to include this area.

POLISHED THIN SECTION:

An optical estimate of the constituents gives the following:

Mineral	**%**	**Origin**
Quartz	45	Detrital
Matrix sericite	40	Alteration
Lithic clasts	5	Detrital
Muscovite	3	Detrital
Tourmaline	1	Detrital
Clay	1	Authigenic
Biotite	Trace – 1	Detrital
Unidentified mineral	Trace – 1	(?) Alteration
Zircon	Trace	Detrital
Opaques	4	(?) Alteration

This sample consists of angular quartz grains between 0.1 and 1mm in size separated by an argillaceous matrix comprised mainly of sericite. Also disseminated through the rock are well-developed muscovite flakes up to 1.5mm in length, which are probably of detrital origin. A weakly developed foliation is defined by a preferred orientation of the muscovite flakes and by a preferred orientation of slightly elongate quartz grains. The matrix sericite has a fibrous texture and generally exhibits a random orientation although a weakly developed preferred orientation parallel to the foliation direction is evident. Most of the quartz grains consist of single quartz crystals although some have a polycrystalline character with a small number exhibiting a finely granular, cherty texture. The quartz grains and muscovite flakes are separated from each other by the sericitic matrix.

The rock contains lithic clasts, which are generally about 1mm in size and exhibit a range of textures. Most of the lithic clasts now consist largely of sericite and are thought to have been replaced by sericite. Some of the clasts exhibit remnant textures suggesting they are altered basic to intermediate, feldspar rich igneous rocks while other clasts exhibit granular textures typical to of fine-grained detrital sediments. A small number of clasts have been almost completely replaced by fibrous sericite with a foliated texture and could represent claystone or shale clasts, which have been completely sericitised. Accessory tourmaline forms angular grains between 0.1 and 0.5mm in size. Traces of zircon formed disseminated grains, which are generally below 0.1mm in size. The rock contains a small number of biotite flakes, which have a weakly pleochroic brown colour and range up to 1mm in length. These are thought to represent detrital biotite flakes and show some marginal replacement of muscovite.

Opaques are disseminated through the rock as grains and granular aggregates ranging up to 0.2mm in size. The disseminated opaques consist largely of finely disseminated sulphide (probably pyrite). An unidentified mineral forms disseminated grains and aggregates up to 0.15mm in size which exhibit high relief and an isotropic, possibly metamict character. Marginal to this mineral the sericitic matrix exhibits a weakly translucent, reddish brown colour which could be due to radiation damage further suggesting that the isotropic nature of this mineral is due to its metamict character.

This is a detrital sedimentary rock with an argillaceous matrix which has been largely altered to sericite. The rock contains disseminated sulphide and a possible disseminated metamict mineral, which could be alteration associated with the sericitic alteration.

SAMPLE: AR17

ROCK NAME: Greywacke

HAND SPECIMEN: This is a well indurated, fine to medium grained rock with a medium grey colour.

POLISHED THIN SECTION:

An optical estimate of the constituents gives the following:

Mineral	**%**	**Origin**
Quartz	40	Detrital
Argillaceous matrix	30	Authigenic/Alteration
Lithic clasts	10	Detrital
Feldspar	10	Detrital
Chlorite	5	Alteration
Muscovite	2	Detrital
Tourmaline	1	Detrital
Biotite	Trace	Detrital
Zircon	Trace	Detrital
Opaques	2	Authigenic/(?)Detrital

This sample consists of detrital grains up to 1.5mm in size comprised of quartz along with smaller amounts of feldspar and lithic clasts distributed through an argillaceous matrix comprised of weakly birefringent clay intergrown with fibrous sericite. The quartz grains generally have sub-rounded shapes and consist of single quartz crystals although some quartz grains have a polycrystalline texture. The feldspar grains consist mainly of plagioclase although minor amounts of potash feldspar could be present. The lithic clast, generally have sub-rounded shapes and consists of both fine-grained, plagioclase rich igneous rocks and finely granular sedimentary rock clasts. Accessory tourmaline and traces of zircon formed disseminated grains up to 0.2mm in size.

The argillaceous matrix separates the detrital grains and consists of fibrous sericite and very finely divided weakly birefringent clay. Chlorite is intergrown with the matrix as flaky aggregates up to 0.2mm in size. Chlorite also occurs as marginal intergrowth to large biotite flakes and as larger flakes up to 0.2mm in size, which could represent completely chloritised detrital biotite. A weakly developed foliation is produced by preferred orientation of the sericite.

Opaques are disseminated through the rock as anhedral grains and aggregates ranging up to 0.2mm in size. The opaques are thought to consist mainly of iron oxides and some have a translucent, reddish brown character but small amounts of sulphide are evident in the sample.

This is an immature, detrital sedimentary rock containing quartz, feldspar and lithic clasts separated by argillaceous matrix. The rock is similar to AR16 but shows less evidence of sericitic alteration as well as less evidence of pyrite and no presence of a possible radioactive mineral.

SAMPLE: AR18

ROCK NAME: Quartz veined sericitic sandstone

HAND SPECIMEN: This is a very fine-grained pale to medium grey rock which is transected by a milky grey quartz vein containing localised concentrations of sulphide as anhedral grains up to about 1mm in size.

POLISHED THIN SECTION:

An optical estimate of the constituents gives the following:

Mineral	**%**	**Origin**
Quartz	75	Hydrothermal/Detrital
Sericite	20	Alteration
Muscovite	1	Detrital
Tourmaline	Trace – 1	Detrital(?)
(?) Topaz	Trace	Hydrothermal
Zircon	Trace	Detrital
Unidentified Mineral	Trace	Hydrothermal
Opaques	3	Hydrothermal/(?)Detrital

The thin section was cut to include a large portion of the quartz vein and the above mineral proportions reflect the high proportion of vein quartz in the thin section. The vein quartz consists of large crystals up to 3mm in size, which have a deformed character exhibiting undulous, strained extinction and sutured grain margins. Opaque sulphides form anhedral, disseminated grains in the vein quartz, which range up to 1.5mm in size. Finely divided opaques are also intergrown with the vein quartz. A single crystal approximately 0.5mm in size tentavely identified as topaz was also noted in the quartz vein. A single crystal of a possibly metamict unidentified mineral similar to the unidentified mineral in sample AR16 occurs in the quartz vein as a marginal intergrowth to an opaque sulphide grain.

The thin section includes some of the host rock, which consists of angular quartz grains ranging up to approximately 1.5mm in size separated by a sericitic matrix. The sericite has a flaky to fibrous character and exhibits a preferred orientation defining a weakly developed foliation. This rock also contains muscovite flakes up to 0.8mm in length, which are probably of detrital origin. Accessory tourmaline and traces of zircon form detrital grains below 0.15mm in size. The host rock also contains disseminated opaques, which include at least some disseminated sulphides.

This is a sandstone quiet similar to sample AR16, which shows quartz veining with associated sulphide and possible topaz mineralisation. A possibly metamict radioactive mineral was noted marginal to the sulphide mineralisation in the vein quartz.