



Erdene Resource Development

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## **SPARTA KAOLIN PROJECT**

*Excerpt from the Annual Information Form*

**For the Fiscal Year ended  
December 31, 2009**

**March 29, 2010**

**Sparta Kaolin Project**

**Introduction**

The Corporation, through its controlled subsidiary, Advanced Primary Minerals USA Corp ("APMUSA"), formerly Erdene Materials Corporation, a Delaware company, was involved in the exploration, evaluation and development of primary kaolin resources in the states of Georgia, U.S.A. APMUSA conducted an extensive core drilling and laboratory testing project between 1998 and 2001 to discover and define new in-ground primary kaolin resources. The project has evaluated and explored the large area of the Southern Appalachian Piedmont Province from east-central Georgia to west-central South Carolina that is underlain primarily by the Sparta granite. A significant primary kaolin resource was discovered and acquired through a series of leases and land purchases. Two leases included in the September 2008 Kaolin Technical Report have since been released by the Corporation. Resource and land information in this AIF have been revised to reflect this change.

As at December 31, 2009, the Corporation controlled an in-ground "premium" quality primary kaolin measured and indicated resource of 22.9 million tons in Georgia (see Table 12). "Premium" quality is determined by the Corporation based on the demonstrated ability of the crude kaolin (-325 mesh) in a deposit to beneficiate (Phase II fine fraction) to a brightness exceeding approximately 88% GE Brightness ("GEB").

**Table 12 - Summary of Primary Premium Kaolin Resources <sup>(1)</sup>**

	Georgia (000's tons)	
	Wet Tons Insitu	Dry -325 tons
Measured Resource	17,019	5,618
Indicated Resource	5,900	2,186
<b>Total Measured and Indicated</b>	<b>22,919</b>	<b>7,804</b>

(1) Two leases included in the September 2008 Kaolin Technical Report have since been released by APMUSA. This resource table has been revised to reflect this change.

APMUSA's kaolin resources are in the form of primary kaolin which is formed by the in situ alteration (weathering) of bedrock, principally granite, associated with the Sparta pluton (referred to as Sparta primary kaolin). Primary kaolins are very different from the sedimentary clays which have been the focus of the Georgia kaolin industry for over a hundred years. In comparison, from a mining viewpoint, the Sparta primary clay district has much less overburden thickness. However, the crude clay is much higher in coarse quartz and other non-clay grit residue minerals which must be removed.

The quality of the degritted kaolin itself is also quite different. The most distinctive difference is the much higher brightness and whiter color which can usually be obtained by simple low cost magnetic separation and reduction leach processing. The Sparta primary kaolin is considered coarse grained and is highly crystalline. This results in a very high aspect-ratio platy product which is ideal for certain product applications.

In October 2003, APMUSA signed a Master Sublease Agreement and Agreement for the Purchase and Sale of Kaolin, as amended (the "Huber Agreement") with JM Huber Corporation ("Huber") a major US Kaolin producer with plants in Huber, Sandersville and Wrens, Georgia. In the first quarter of 2008, Huber Engineered Materials (a division of JM Huber Corporation) was purchased by IMin Partners who formed KaMin LLC ("KaMin") to operate the kaolin business. The Huber Agreement and all obligations in the Huber Agreement continue under KaMin.

As of December 31, 2009, KaMin had a total prepaid amount of 1,764,264 crude short wet ("CSW") tons under the terms of the Agreement. Between October 2003 and December 31, 2009, KaMin has mined a total of 752,547 CSW tons of primary kaolin from APMUSA properties, including 694,168 CSW tons from the Lucky Main deposit. Under the terms of the Agreement, KaMin can only mine up to 1,000,000 CSW tons from the Lucky Main property. The balance of the prepaid tonnage that can be mined from the Lucky Main property is 305,832 CSW tons. Any additional prepaid tonnage in excess of the 1,000,000 from Lucky Main was to be mined from Lucky Southwest. However, in 2009 KaMin decided not to renew the lease on the Lucky Southwest property. KaMin must mine the balance of the prepaid tonnage on or before July 15, 2014. APMUSA has the right to mine on the KaMin exclusive mining properties (Lucky Main) provided APMUSA identifies kaolin within the areas that does not meet KaMin product specifications.

Under the Agreement, KaMin must pay all lease and royalty payments including taxes and may recoup these costs as additional prepaid mine tonnage. KaMin is also responsible for all reclamation costs to any area they mine. Also under the Agreement, KaMin has indemnified APMUSA, its directors and officers against any damages or injuries that occur as a result of their mining and transport of APMUSA kaolin.

In November 2007, Deepstep Kaolin Company ("Deepstep"), APMUSA and David Avant entered into a joint venture agreement to develop and manufacture specialty kaolin products. APMUSA and Deepstep worked with manufacturers to test the primary kaolin in different ceramics and glazing applications. In mid 2007 APMUSA and Deepstep entered into a trial production period where APMUSA provided the kaolin and rented the production facility in Eatonton to Deepstep. Deepstep has been providing the technical knowledge to develop new kaolin products.

On July 15, 2008, the Corporation entered into a binding Letter Agreement with Beta Minerals Inc. ("Beta") and Deepstep Kaolin Company LLC ("Deepstep") whereby the Corporation and Deepstep agreed to exchange all of the outstanding common shares of APMUSA, for common shares of Beta (the "Transaction"), giving the Corporation a controlling interest in Beta.

The terms of an amended and restated letter agreement, dated January 23, 2009 were approved by the shareholders of Beta on February 20, 2009 and the Transaction closed on February 27, 2009. The Beta shareholders also approved a change of name from Beta to Advanced Primary Minerals Corporation ("APM") at the same meeting. The Transaction constituted an arms-length "Reverse Takeover" under the applicable policies of the TSX Venture Exchange ("TSXV"). The shares of APM trade on the TSXV under the symbol APD.

The Corporation was issued 71,000,000 shares of APM in connection with the reverse takeover and transferred 2,925,000 of these shares to Toll Cross Securities Inc. in satisfaction of a success fee payable in connection with the Transaction. In August of 2009, the Corporation converted approximately US\$400,000 of debt owed to it by APM to 7,924,529 shares of APM. In addition, provided APM obtains certain permits before February 27, 2012, the Corporation is entitled to additional shares of APM.

A special meeting of shareholders of APM was held on December 8, 2009 (the "Meeting"), where shareholders passed a special resolution approving a consolidation of APM's common shares on the basis of one (1) post-consolidation share for up to every seven (7) pre-consolidation shares. The consolidation was effected as of December 18, 2009, on the basis of one (1) post-consolidation share for every seven (7) pre-consolidation shares. Outstanding options and warrants were adjusted on the basis of the same ratio. As at the effective date of the consolidation, APM had 117,667,382 common shares issued and outstanding. The Corporation now holds 10,857,076 of APM's 17,009,626 outstanding shares and an additional 5,142,857 shares of APM will be issued to the Corporation provided certain permits are obtained by APM by February 27, 2012.

#### Property Description and Location

APMUSA controls various properties in east-central Georgia located south of Interstate 20, in the vicinity of the towns of Sparta, and Thomson. The properties are approximately 160 km east-southeast of Atlanta and within 40 to 60 km by road from the major kaolin producing plants in the Sandersville and Wrens areas. A compilation of location and ownership information on each of the kaolin properties currently owned or leased by APMUSA in Georgia is given below in Table 13.

The boundaries for owned and leased properties were all located by qualified land surveyors and all mineral resources are located within the property boundaries.

**Table 13 – Property Location, Ownership, Size and Elevation <sup>(1)</sup>**

<b>Project Area</b>	<b>County</b>	<b>Lessor/ Optionor</b>	<b>Ownership / Lease Notes</b>	<b>Area</b>	<b>Latitude North</b>	<b>Longitude West</b>	<b>Elev.</b>
Lucky Main	Hancock	International Paper ("IP")	IP Lease Agreement Feb 2001, amended May 2004; APMUSA purchased 50% of the mineral rights in Oct 2003	756	33° 52' 41"	81° 28' 48"	490'
Brookins	Hancock	Plum Creek (formerly Georgia Pacific ("GP"))	GP Lease 1997 (2)	380	33° 10' 40"	83° 06' 00"	492'
Bluenose	McDuffie		<b>Six Contiguous properties</b>	333	33° 28' 00"	82° 26' 30"	499'
Cofer 1			<b>Owned by APMUSA</b>	202			
Cofer 2			<b>Owned by APMUSA</b>	10			
Pruet			<b>Owned by APMUSA</b>	40			
Parish			<b>Owned by APMUSA</b>	45			
APMUSA			<b>Owned by APMUSA (two properties)</b>	36			
Tudor	McDuffie		<b>Owned by APMUSA</b>	80	33° 23' 00"	82° 23' 36"	407'

(1) Two leases included in the September 2008 Kaolin Technical Report have since been released by APMUSA. This table has been revised to reflect this change.

No royalty payments are payable on any production from properties owned by APMUSA.

The properties under lease by APMUSA all have minimum annual advance royalty payment requirements, as well as production royalty payments payable once mining starts. Table 14 gives a summary of the annual minimum payments and production royalty rates for kaolin (and other minerals including granite and sand) for all of the Georgia properties currently under long-term lease. The total annual commitment for minimum royalty payments is approximately US\$74,297.

Pursuant to the Huber Agreement, it is the responsibility of KaMin to obtain all permits for KaMin's mining of kaolin from APMUSA properties. Permits required include: Surface Mining Permit, Air Quality Permit, Water Quality Permit, Land Disturbing Activities Permit, County Zoning Permit and Department of Transportation ("DOT") Entrance Permit. The minimum royalty payment for the Lucky Main lease of US\$60,000 must be paid by KaMin.

**Table 14 – Property Lease and Royalty Terms<sup>(1)</sup> – (all amounts in US\$)**

<b>Project Area</b>	<b>Lessor</b>	<b>Lease Term</b>	<b>Minimum annual payment</b>	<b>Kaolin Royalty<sup>(2)</sup></b>	<b>Granite and Sand Royalty</b>	<b>Royalty on Other Minerals</b>
Lucky Main	International Paper (IP)	Lease 2001- 2031, amended May 2004	US\$60,000	\$0.35 per ton mined	Granite \$0.125 per ton sold	2.5% of selling price
Brookins	Plum Creek	Lease 1997 to completion of kaolin mining (2)	US\$14,297	\$2.00 per dry ton sold	Granite - \$0.26/ton Silica sand \$0.52/ton	n/a

(1) Two leases included in the September 2008 Kaolin Technical Report have since been released by APMUSA. This table has been revised to reflect this change.

(2) Some royalties are subject to adjustment to reflect changes in the Producers Price Index for Kaolin.

The author of the September 2008 Kaolin Technical Report reported that to the best of his knowledge, there are no known environmental, permitting, legal, title, taxation, socio-economic, political or other relevant issues that would change the mineral resource as shown.

Regulated wetlands are prohibited from mining by U.S. Federal and State requirements. The geological nature of primary kaolin deposits precludes mineralization forming in low-lying wetland areas. Few APMUSA deposits are known to need mine plan correction to account for wetlands. However, when closer 100 foot spaced grid drilling is done for mine planning purposes, some tonnage deductions may be needed for minor wetlands, paved roads or high tension power lines.

The properties are all isolated rural tracts with no indication of any previous industrial activity which may have left significant chemical, fuel, or ground water contamination. The writer of the September 2008 Kaolin Technical Report states that he has seen no reason for concern about industrial waste on any of APMUSA's leased or owned properties.

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

The properties are located about 150 m above sea level. Generally, the area has a flat topography and is covered with sandy soil and the typical vegetation for the area Georgia Pine. The Cofer area of the Bluenose property is generally covered in field-grass. All of the areas are easily accessible by paved highway within 3 km of the properties and by dirt road access to the property itself. The Bluenose and Tudor properties are located within 20 km of Augusta, Georgia, a city of 200,000 people, via an all-season, paved two-lane highway. The Lucky Main and Brookins properties are located within 8 km of Sparta, GA, which has a population of approximately 1,500 and is located about 85 km from Athens, Georgia (population 100,000) and 100 km from Augusta via an all-season, paved two-lane highway.

The climate in eastern Georgia is characterized by warm summers and very mild winters. The area around the mine has an average annual rainfall of 115 cm with less than 3 cm of snow. Average temperatures are highest in July at 27°C and coldest in January at 7°C. On average, there are 54 days annually when the minimum temperature is below freezing.

APMUSA owns or has access to the surface rights through long-term leases to all of its mineral resources. Only mining operations are to be conducted at the kaolin properties. The mined kaolin is to be truck transported to processing facilities. Typically, all of the mining and trucking is contracted to one of a number of experienced contractors in the area. The only power required for mining operation is a portable generator to operate a pit dewatering pump. Tailings would be handled at the processing plants.

#### History

The presence of primary kaolin in Georgia has been well known and documented over the past century. Its potential development was not considered for hydrous or calcined products until the early 1980's when Georgia Kaolin Company began an investigation into the potential for commercial development of primary kaolin. During the period 1992-96, U.S. Borax discovered and drilled at 120-240 m spacing the Lucky Main and Brookins properties, completed a limited regional program of geologic mapping, and drilled approximately 102 regional holes primarily on county road rights-of-way. U.S. Borax drilled a total of 443 core holes during the evaluation.

In October 1998, APMUSA acquired from U.S. Borax its mineral leases and a parcel of real estate associated with U.S. Borax's kaolin exploration project. The acquisition included the Lucky Main, Lucky Southwest, and Brookins property. None of APMUSA's resource properties were previously mined for kaolin. APMUSA's resource properties are either forest property, farm property or private residential property.

#### Geological Setting

The south-eastern Appalachian Terrain is divided into four main, northeast-trending, litho-tectonic belts. From west to east these are; the Kings Mountain Belt, the Charlotte Belt, the Carolina Slate Belt, and the Kiokee Belt which is comprised mainly of gneiss and schist with widespread granite intrusions. It is the granite plutons, contained within the Kiokee Belt, that have been the focus of extensive exploration for primary kaolin, formerly by Georgia Kaolin

Co. and U.S. Borax, and more recently by APMUSA. The southern limit the Kiokee Belt is not known since it is covered by sediments of the Atlantic Coastal Plain ("ACP").

APMUSA's primary kaolin exploration has focused on the biotite-bearing, Sparta granite which is a predominately peraluminous, S-type granite. At approximately 332 square kilometres, the Sparta granite is one of the largest plutons within the Kiokee Belt. While the Sparta Granite is predominately fine to medium-grained equigranular in texture, coarse-grained to locally porphyritic and megacrystic textures also occur.

Overlying extensive areas of the Kiokee Plutonic Belt are unconsolidated sediments of the ACP. These predominately marine sediments form an unconformable sequence of clay, sand and gravel ranging from Cretaceous to Quaternary age and which can have considerable thickness (greater than 250 feet). It is for this reason that primary kaolin exploration has been restricted to the northern margin of the Coastal Plain where it is generally less than 75 feet in thickness. The ACP sediments contain extensive sedimentary kaolin deposits in both Georgia and South Carolina.

Saprolite development and formation of extensive kaolin deposits occurred in the south-eastern U.S. during a period of global warming extending from the late Cretaceous to late Tertiary. Exploration work to date indicates that saprolite derived from a muscovite-bearing, peraluminous, S-type granite is the most favourable source rock for primary kaolin.

The saprolite or weathered zone can be divided vertically into three types; 1) an upper mottled or ferruginous zone, 2) a pallid zone which is the source for most of the primary kaolin and 3) a transitional zone, which is often gradational to weakly saprolitized bedrock in which unaltered potassium feldspar crystals are present.

The APMUSA primary kaolin deposits are located on surface with typically less than 10 meters of overburden.

### Mineralization

The word kaolin is now used as a loose trade and geologic term to refer to white clayey rock that is predominantly composed of Kaolin Group (khandite) minerals. The most common constituent is the mineral kaolinite. Kaolinite is a layered silicate made of alternating sheets of octahedrally coordinated aluminum and tetrahedrally coordinated silicon that are bonded by hydroxyl groups. Kaolinite is represented by the chemical formula  $Al_2Si_2O_5(OH)_4$ , and it most often occurs as clay-sized, plate-like, hexagonally shaped crystals.

The Sparta primary kaolins are very different from the sedimentary clays which are the world center of the industry in the Coastal Plain area from Macon, Georgia to Aiken, South Carolina. In comparison, from a mining viewpoint, the Sparta primary clay district has much less overburden thickness with no troublesome fullers earth, no artesian water or wetland problems. However, the primary crude kaolin is much higher in coarse quartz and other non-clay grit residue minerals which must be removed.

The quality of the degrittied kaolin itself is also quite different. The most distinctive difference is the much higher brightness and whiter color which can usually be obtained by simple low cost magnetic separation and reduction leach processing. This is possible because the kaolin has been derived by alteration from feldspars and micas in low-iron and low-titania granite, so costly flotation or selective flocculation to remove dark iron-titania oxides is not necessary to achieve superior brightness and whiteness.

Further, the primary kaolinite crystals have not been through the staining and degradation of erosion, transport as muddy river water, and sedimentary deposition as organic muds in a swampy marginal marine river delta environment. Since there has been no deposition with organic marsh sediments, there are no gray Sparta kaolins needing costly ozone gas oxidation.

Additionally, the Sparta kaolinite crystals are considerably coarser than typical Coastal Plain sedimentary clays mined to the south and can serve as ideal replacement for the increasingly scarce coarse Cretaceous sedimentary clays which are in great demand today.

The Sparta primary kaolin is highly crystalline, and occurs both in thin high aspect ratio platelets and as thick accordion-shaped stack-like crystals which are quite easily cleaved to thin plates. Particle size can be reduced by

centrifugation and delamination cleavage. Wet milling of the oversize centrifuge rejects can be done to any desired particle size specification, making a very high aspect-ratio platy product.

Sparta-type primary kaolin viscosity is fundamentally different from that of the typical Georgia sedimentary clays. This is due to differences in particle size, shape factors, and mineralogy.

APMUSA X-ray diffraction studies have discovered no montmorillonite (smectite) present in the primary clays. Montmorillonite is well known to cause poor viscosity in the sedimentary kaolins. The higher viscosity of the Sparta kaolin is likely due to its high aspect ratio platy nature and particle size distribution, which can also result in positive optical attributes for many uses as a paper pigment.

Table 15 contains a summary of the average pallid zone or saprolite thickness, defined as the primary clay unit with a Phase I GEB brightness of 60% or higher and overburden thickness, defined as the vertical depth of material overlying the pallid zone. Table 16 shows only the properties for which a resource estimate has been given in the September 2008 Sparta Kaolin Technical Report and over which APMUSA still retains control.

### Exploration

APMUSA's principal objectives for the exploration program were to discover, evaluate, and acquire properties with high quality white residual primary pigment grade kaolin clay. These primary clays have been derived by surficial weathering alteration from the Sparta Granite and other low iron granitic rocks. Experience in the project area showed that the optimum geological strategy for development of best thickness and quality primary kaolin deposits was to seek upland interfluvial areas of medium to coarse grained post-metamorphic muscovite/biotite granites overlain by a thin up-dip edge of Coastal Plain sedimentary cover. For ease of clay blunging, areas where parent granite rock has been cut by quartz veins were avoided.

The most reliable tool for the exploration of kaolin deposits, including primary kaolin deposits, is drilling. The mobile, truck mounted drill rigs used by kaolin drilling companies are a quick and cost effective way of assessing areas identified by APMUSA geologists as having potential to host primary kaolin deposits. A systematic regional geologic evaluation program was carried out to identify prospective areas. Typically, property access was negotiated with landowners to allow APMUSA to drill several reconnaissance holes, usually along existing roads or in fields. If favourable results were obtained, property access negotiation was initiated to attempt to secure a long-term lease or option to purchase agreement. Only after such an agreement was signed between APMUSA and the landowner would close-spaced resource definition drilling start. The details of the drilling program are outlined in the following section.

### Drilling

APMUSA explored by closely spaced core drilling, as is typical for the Georgia sedimentary kaolin industry. Drilling was done under contract by Ballard Drilling Co. of Americas, Georgia, and by Login Drilling Co. of Tennille, Georgia. Both used an industrial standard double tube core barrel operated by truck-mounted Failing and Gardner-Denver (Mayhew) water fluid re-circulating drill rigs. By May 2001, the contractors had completed 4,136 core holes (3,646 in Georgia, and 490 in South Carolina). These holes have yielded a total of 186,697 feet of clay drill core. This total does not include the 443 Sparta primary kaolin core holes previously drilled by U.S. Borax in the mid-1990s (totaling 25,459 feet), or the earlier Sparta kaolin core drilling done in the mid to late 1980s by Georgia Kaolin Company.

Between 2003 and 2006, KaMin drilled and tested the kaolin on 15 of APMUSA's properties including Lucky, Brookins, Cofer, and Tudor. The purpose of the drilling was first to confirm APMUSA's high bright kaolin resource estimates within each deposit, and secondly to confirm high brightness within each of the resource blocks KaMin has identified and blocked as KaMin's areas of exclusive mining. KaMin drilled 1,159 holes that totaled 61,061 feet, coring 22,690 feet of primary kaolin. The results of the drilling program were not made available to APMUSA.

No additional resource definition drilling was conducted by APMUSA between March 2006 and July 2008.

Table 15 summarizes the number of holes drilled on each of APMUSA's properties for which a resource estimate has been given in the September 2008 Kaolin Technical Report and over which APMUSA still retains control. The

summary includes the number of holes drilled and their total footage, the average pallid zone or saprolite thickness, defined as the primary clay unit with a Phase I GEB brightness of 60% or higher, (see Sample Preparation, Analyses and Security), and overburden thickness, defined as the vertical depth of material overlying the pallid zone. Table 15 does not include the KaMin drill program.

In addition, APMUSA completed three bucket auger and two test pit bulk sampling programs. Gunther Well Drilling of Washington, Georgia completed the bucket auger programs utilizing a 30-inch diameter auger mounted on a water well drill rig. Samples were collected at average intervals of 1.5 feet. Representative bulk samples were collected from four deposit areas (Lucky Main, Lucky Southwest, Bluenose and Brookins). In addition, two test pits were completed on the Lucky Main deposit.

Each drill hole was supervised on-site by APMUSA contracted geologists. All core was described and lithologic logs prepared on site and in APMUSA's Eatonton laboratory as the core was being trimmed for analysis. Typically, the site geologists instructed that each core hole be drilled to a reasonable depth or until hard, unaltered parent granitic rock was encountered. Holes have averaged less than 75 feet depth.

Obvious no-value overburden such as Coastal Plain sands and sandy clays and mottled dark colored saprolites were not cored, but rather drilled through with a fish-tail bit. During fish-tail drilling formation cuttings coming up in the drill fluid were continually examined and noted on the logs by the driller and the on-site geologist.

**Table 15 - Summary of Drilling Results – Primary Kaolin Resource <sup>(1)</sup>**

<b>Property</b>	<b>Average Overburden Thickness (feet)</b>	<b>Average Pallid Zone Thickness (feet)</b>	<b>Number of Drill Holes</b>	<b>Total Drilling Footage (feet)</b>
<b>Lucky Main</b>	33.4	11.9	311	15,011
<b>Brookins</b>	44.5	15.9	341	20,665
<b>Bluenose</b>	37.0	14.4	223	11,570
<b>Tudor</b>	16.2	15.0	38	1,184
<b>Georgia (Wtd. Avg. / Totals)</b>	<b>37.4</b>	<b>14.3</b>	<b>913</b>	<b>48,430</b>

(1) Two leases included in the September 2008 Kaolin Technical Report have since been released by APMUSA. This table has been revised to reflect this change.

Both the target primary kaolinized zone, which is pallid and relatively white in color, and any sedimentary kaolin encountered, was cored, described, and packed in wooden boxes for transport each day to APMUSA's laboratory in nearby Eatonton. Upon completion, each hole was plugged and sealed as required by Georgia law to prevent surface water from entering the ground water system.

Except for initial "wildcat" drilling at convenient spot locations done when a property was first evaluated, APMUSA's drilling was typically done on a surveyed grid. Surveying has been done by Barker & Associates of Sandersville and Ralph Vanadore & Associates of Lexington, South Carolina. Completed drill holes were monumented by staking a metal rod at the drill site with an attached aluminum tag with hole and location data. Drill core not consumed in testing was sealed in plastic buckets and warehoused at the APMUSA facility in Eatonton, to be available for future testing, research, and resource authentication.

Sam Pickering, P. Geo., of Industrial Mineral Services, Macon, Georgia ("Pickering") conducted an audit of APMUSA's resource estimates and prepared a report titled "2001 Audit Report of Kaolin Resources Developed by Sparta Kaolin Corp". Pickering personally examined each of APMUSA's resource areas prior to his 2001 report. He checked at many random locations from APMUSA drill progress maps and confirmed:

- That the core holes were actually drilled as marked and reported to Pickering, as evidenced by visible piles of drill cuttings which generally match the material described on the log sheets;
- That the holes were properly located at the indicated grid spacing distance on the maps; and

- That hole sites were usually still accurately marked with metal stakes and hole numbers which match the surveyed coordinates (at hole sites in plowed or mowed fields landowners may have removed some stakes).

Sampling and Analysis

All samples were collected by geologists under contract to APMUSA in the field and taken to the APMUSA's laboratory in Eatonton each day where they were cleaned, photographed, divided in half and each half-core sample was placed in individual buckets. One sample was processed immediately for Phase I analysis. The duplicate samples were well marked and placed in storage and, if required, they were used for further analysis, such as Phase II analysis. All sampling was supervised by qualified and experience laboratory staff to ensure the validity and integrity of the sampling process.

All kaolin samples were processed and tested at APMUSA's laboratory located in Eatonton, Georgia. The author of the September 2008 Kaolin Technical Report reported that lab procedures, equipment and the qualifications of the lab personnel have all been reviewed and he concluded that the Eatonton laboratory equipment was well selected for the work done, clean, well maintained and regularly calibrated and that the laboratory technicians were properly qualified to conduct testing and analysis of primary kaolin.

As is commonly done in the Georgia kaolin industry, APMUSA divided its drill core analysis into Phase I and Phase II categories. Simply stated, Phase I tests the crude characteristics (brightness, color, particle size, viscosity, etc.) of the degritted raw kaolin. Phase II laboratory processing does clay fractionation into fine (90% less than 2 microns) and coarse (60% less than 2 microns) particle sizes and then processes both fractions to improve brightness, whiteness, etc. by magnetic separation and reduction chemical leaching. All worthwhile clay core samples from holes drilled before May 2001 have been Phase I tested and results incorporated in the kaolin resource deposit tonnage calculations.

*Phase I*

Each drill core was sub-divided for Phase I analysis into 2 to 12 foot thickness samples of similar color and lithology. APMUSA's Phase I testing protocol includes measurement of the following crude clay factors:

- the percentage of finer than 325 mesh (44 microns) grit residue content;
- degritted crude clay GE (TAPPI) and ISO brightness and Hunter Lab color values using Technidyne S4-M and TB-1C brightmeters;
- degritted finer than 325 mesh crude clay particle size, in the quality summaries expressed only as the weight percentage finer than 2 microns, measured by Micro-Meritics X-ray Sedigraph; and
- degritted crude clay Brookfield (low shear) viscosity at 20 rpm's on Kal-Tech viscometers at 70 percent (or the maximum lower percentage) of solids with an optimum sodium polyacrylate dispersant dose.

As of May 2001, a total of 7,870 Sparta kaolin core sample Phase I samples were tested by these standard procedures. This testing is the basis of the Phase I Resource tonnage summaries. Table 16 gives a summary of the Phase I results.

**Table 16 - Summary of Phase I Results – APMUSA Primary Kaolin Resource <sup>(1)</sup>**

Property	Average Crude GE Brightness	Average Brookfield Viscosity	Average % Solids	Average % <325	Average % < 2 microns
Lucky Main	72.1	614	69.9	43.95	52.5
Brookins	73.5	1,037	69.9	40.11	51.4
Bluenose	77.5	657	69.9	46.57	58.6
Tudor	75.9	324	69.7	49.27	47.7
<b>Georgia (Wt. Avg.)</b>	<b>75.3</b>	<b>732</b>	<b>69.8</b>	<b>44.49</b>	<b>55.1</b>

(1) Two leases included in the September 2008 Kaolin Technical Report have since been released by APMUSA. This table has been revised to reflect this change.

### *Phase II*

Phase II multi-hole composite samples were prepared by mixing proportional volumes of core from 5 to 25 holes each. These composites were made for core samples with similar brightness, color, and viscosity. Phase II core analysis consists of further processing of the degrittled clay fraction by:

- centrifuging into a fine 90 percent finer than 2 microns traction (typical of a No. 1 paper coating kaolin product) and a coarse delaminated filler fraction at 60 percent finer than 2 microns, and then
- brightness and color improvement of each by magnetic separation to remove discolouring iron and iron-titania oxides, and
- further brightness and Hunter color improvement by reduction chemical leaching with sodium hydrosulfite to remove any remaining iron oxides.

The resulting fractionated and beneficiated kaolin fine and coarse filler fractions are then re-measured at each step for GE (TAPPI) and ISO brightness, color and viscosity. Further, the fine fractions are calcined at 1060° C. with no reduction chemical leaching, and again measured for GE (TAPPI) and ISO brightness and Hunter color values.

Phase II testing of each of the thousands of core holes drilled for the APMUSA project would have involved an enormous amount of laboratory processing and would have consumed too much of the available amount of drill core. Therefore, Phase II multi-hole composite samples were prepared by mixing proportional volumes of core from 5 to 25 holes each. In order to assure that each composite sample did not include an excessive variation of different brightness, color, or viscosity clay, APMUSA selected core for each composite to include a specific range of Phase I quality categories rating brightness and viscosity. This system had the advantage of not mixing differing grades of crude kaolin in the composites. Plan and cross-section maps showing areas of influence for each Phase II composite relative to drill hole sites were completed by APMUSA using AutoCAD.

Thus, each Phase II composite sample includes cored clay from a number of individual drill holes. However, several core composites from each drill hole may often be combined with samples from other drill holes in the effort to assure that all composite samples are based on similar physical character and in-ground elevation.

Table 17 gives a summary of the Phase II results.

**Table 17 - Summary of Phase II Results – Georgia Primary Kaolin Resources <sup>(1)</sup>**

Exploration Area	Phase II				Fine Fraction (ff) 90% <2 microns					Coarse Fraction (cf) 60% <2microns		
					Yield	Brightness (GEB) and Color (Hunter)				Yield	Brightness (GEB) and Color (Hunter)	
Property	Wet Tons Tested	Equivalent Dry -325 Tons	Crude GEB	Wt. Avg Brookfield Viscosity	%	ff bleach GEB	ff bleach "b"	ff calcine GEB	ff calcine "b"	cf Yield	cf bleach GEB	cf bleach "b"
<b>Lucky Main</b>	4,497,465	1,519,890	73.0	592	45.2	91.9	2.18	95.6	1.78	49.7	90.0	2.57
<b>Brookins</b>	6,820,997	2,110,610	74.1	951	44.5	89.9	2.99	93.0	2.71	50.2	87.2	3.64
<b>Bluenose</b>	6,923,150	2,557,372	78.9	372	57.2	93.4	1.72	95.3	1.99	40.0	90.4	2.50
<b>Tudor</b>	863,434	333,068	77.4	240	42.6	90.6	2.46	91.6	3.09	51.6	89.3	2.53
<b>GEORGIA (Totals/ Wt. Avg.)</b>	<b>19,712,661</b>	<b>6,719,369</b>	<b>75.8</b>	<b>614</b>	<b>49.1</b>	<b>91.7</b>	<b>2.31</b>	<b>94.4</b>	<b>2.25</b>	<b>46.6</b>	<b>89.2</b>	<b>2.91</b>

(1) Two leases included in the September 2008 Kaolin Technical Report have since been released by APMUSA. This table has been revised to reflect this change.

*Data Verification*

In order to audit consistency and repeatability of APMUSA's laboratory results, a number of interlab "round-robin" tests of identical splits of known kaolin samples were conducted by Pickering. For these interlab tests, Pickering arranged for several well known and reliable independent industry clay laboratories to test identical samples to those simultaneously tested by APMUSA. The lab's results were faxed directly to Pickering so no laboratory had prior knowledge of any other's results. The independent industry clay laboratories are all ISO-9001 certified and located in Sandersville and Macon, Georgia. Pickering concluded that APMUSA's Eatonton laboratory compared well with the large Georgia kaolin companies in each of these interlab tests. He therefore had confidence in the precision and accuracy of the Phase I drill core testing which supports APMUSA's reported resource with respect to the quality, volume, and tonnage of their clay holdings.

The author of the September 2008 Kaolin Technical Report reviewed the data from the inter-lab testing program and agrees with Pickering's finding. The author of the September 2008 Kaolin Technical Report stated that he therefore has confidence in the precision and accuracy of the Phase I drill core testing which supports APMUSA's resource area reports on the quality, volume, and tonnage of their kaolin resources.

A drill, testing and analysis program implemented by KaMin has verified the results reported by APMUSA. As a result of several visits to APMUSA's testing facilities in Eatonton, the author of the September 2008 Kaolin Technical Report concluded that all testing and sampling by APMUSA was conducted according to American Society of Testing and Materials ("ASTM") standards. The author of the September 2008 Kaolin Technical Report also concluded, based on a site visit to the Lucky Main mine site, that the actual open mine face conformed to that drawn on sections and used for the resource calculations.

KaMin has found several features while mining the primary kaolin that were not evident from the drill program. These include: discoloured yellowish "blobs" of kaolin in the deposit which must be discarded; the presence of iron nodules within the kaolin deposit that also must be discarded; and chunks of hard saprolite that caused premature blunger impeller blade failure at Kamin's plant. As the mining contractors have become more experienced at mining primary kaolin and with the installation of screens at the plant, these problems have been solved by KaMin.

Mineral Resource Estimates

The author of the September 2008 Kaolin Technical Report relied on the information prepared by APMUSA's geological consultants and by Pickering in determining the resource estimate for the kaolin mineralization on APMUSA's properties that are currently under long-term lease or are owned outright by APMUSA. The author of the September 2008 Kaolin Technical Report stated that he thoroughly reviewed the resource estimation process used by APMUSA, audited by Pickering and concluded that the resource estimate information in Table 18 below is sound, reasonable and prepared in a professional manner.

**Table 18- Primary Premium Kaolin Resource Summary (000's tons)<sup>(1)</sup>**

Property	Measured		Indicated		Inferred	
	Wet Tons Insitu (000's)	Dry -325 Tons (000's)	Wet Tons Insitu (000's)	Dry -325 Tons (000's)	Wet Tons Insitu (000's)	Dry -325 Tons (000's)
Lucky Main	4,927	1,667				
Mined Lucky Main	(694)	(235)				
Remaining Lucky Main	<b>4,233</b>	<b>1,432</b>				
Brookins	<b>6,286</b>	<b>1,879</b>				
Bluenose	<b>5,495</b>	<b>1,925</b>	<b>5,390</b>	<b>1,998</b>	1,318	462
Tudor	<b>1,005</b>	<b>382</b>				
<b>Total</b>	<b>17,019</b>	<b>5,618</b>	<b>5,900</b>	<b>2,186</b>	1,318	462

(1) Two leases included in the September 2008 Kaolin Technical Report have since been released by APMUSA. This resource table has been revised to reflect this change.

The following table gives a summary of the criteria APMUSA used in determining its kaolin resource categories. These mineral resource categories meet the definitions set out in NI 43-101.

**Table 19 - Summary of Resource Category Criteria**

<b>Resource Category</b>	<b>Criteria</b>
Measured Resource	Sampled and analyzed by surveyed grid core drilling at 200 foot or closer spacing; consistent lithology & geology.
Indicated Resource	Sampled and analyzed by surveyed grid core drilling at 400 foot or closer spacing, generally consistent geology.
Inferred Resource	Sampled and analyzed by random or grid core holes less than 800 feet apart, estimated from geological projections.

APMUSA's reported Georgia kaolin Measured and Indicated Resource is 22.9 million tons of crude primary kaolin in Georgia that is considered to be of "Premium" quality and meeting the measured and indicated resource criteria (120-240 m drill hole spacing). "Premium" quality is based on the demonstrated ability of the crude kaolin (-325 mesh) in a deposit to beneficiate to a brightness equal to or exceeding 88% GEB (see Table 17). The calculated dry - 325 kaolin content of the "Premium" quality resource is 7.8 million tons.

#### Permits and Approvals

Regulated wetlands are prohibited from mining by U.S. Federal and State requirements. The geological nature of primary kaolin deposits precludes mineralization forming in low-lying wetland areas. Few APMUSA deposits are known to need mine plan correction to account for wetlands. However, when closer 100 foot spaced grid drilling is done for mine planning purposes, some tonnage deductions may be needed for minor wetlands, paved roads or high tension power lines.

The properties are all isolated rural tracts with no indication of any previous industrial activity which may have left significant chemical, fuel, or ground water contamination. The author of the September 2008 Kaolin Technical Report reported no reason for concern about industrial waste on any of APMUSA's leased properties.

Permits required for mining on APMUSA properties include: Surface Mining Permit, Air Quality Permit, Water Quality Permit, County Zoning Permit and Department of Transportation Entrance Permit. It is the responsibility of KaMin to obtain all permits for their mining operation on APMUSA's properties. There is no guarantee that APMUSA and/or KaMin will be able to acquire all of the necessary permits to put any or all of the primary kaolin resource, to which they have access, into production.

#### KaMin Mining Operations

In October 2003, APMUSA signed a Master Sublease Agreement and Agreement for the Purchase and Sale of Kaolin, as amended (the Agreement) with JM Huber Corporation a major US Kaolin producer with plants in Huber, Sandersville and Wrens, Georgia. In the first quarter of 2008, Huber Engineered Materials (a division of JM Huber Corporation) was purchased by IMin Partners who formed KaMin LLC ("KaMin") to operate the kaolin business. The Agreement and all obligations in the Agreement continue under KaMin.

As of December 31, 2009 KaMin had a total prepaid amount of 1,764,264 crude short wet ("CSW") tons under the terms of the Agreement. Between October 2003 and December 31, 2009, KaMin has mined a total of 752,547 CSW tons of primary kaolin from APMUSA properties, including 694,168 CSW tons from the Lucky Main deposit. Under the terms of the Agreement, KaMin can only mine up to 1,000,000 CSW tons from the Lucky Main property. The balance of the prepaid tonnage that can be mined from the Lucky Main property is 305,832 CSW tons. Any additional prepaid tonnage in excess of the 1,000,000 from Lucky Main was to be mined from Lucky Southwest. However, in 2009 KaMin decided not to renew the Lease on the Lucky Southwest property. KaMin must mine the balance of the prepaid tonnage on or before July 15, 2014. APMUSA has the right to mine on the KaMin exclusive mining properties (Lucky Main) provided APMUSA identifies kaolin within the areas that does not meet KaMin product specifications.

Under the Agreement, KaMin must pay all lease and royalty payments including taxes and may recoup these costs as additional prepaid mine tonnage. KaMin is also responsible for all reclamation costs to any area they mine. Also under the Agreement, KaMin has indemnified APMUSA, its directors and officers against any damages or injuries that occur as a result of their mining and transport of APMUSA kaolin.

APM Operations

APM's goal is to become North America's leading specialty primary kaolin producer. Initially, APM is targeting replacement of high value European primary clay imports, which is estimated by APM to be approximately 20,000 tons per annum. At the present time, the Dearing plant is processing clay from the Tudor property and is in the process of permitting the remaining primary clay properties in McDuffie County, Georgia on land owned by APM. APM expects to complete the permitting process by the end of 2010. APM is projecting sales of primary kaolin products to be 9000 tons in 2010, 21,000 tons in 2011 and 34,000 tons in 2012 and is anticipating positive cash flows in 2011, assuming APM secures funding of a minimum of \$750,000, \$350,000 of which was committed by the Company in March 2010.

Technical Reports

The Corporation and APMUSA commissioned an independent technical report of the Sparta Kaolin Project in accordance with National Instrument 43-101 in conjunction with the proposed reverse takeover of Beta. The report provides an updated resource estimate (effective date July 1, 2008). The September 2008 Kaolin Technical Report, prepared by Donald M. Fraser, is dated September 25, 2008 and is incorporated by reference in this AIF. This report is located on the Corporation's SEDAR documents page at [www.sedar.com](http://www.sedar.com). The report was filed on November 26, 2008.