TECHNICAL REPORT
ON THE

Rea Property
Northeastern Alberta

Latitude: 57°52’ N - 58°26’ N
Longitude: 110°51’W - 110°00’ W

Prepared for

Brazil Resources Inc.

Vancouver, BC, Canada

Prepared by
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And
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Effective Date: September 12, 2014
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1. SUMMARY

Brazil Resources Inc. ("BRI") commissioned the authors to review the historic exploration programs on the Rea property ("Property") and to prepare an independent evaluation of the potential for the property to host uranium mineralization. This report summarizes the results of that work and is written to comply with standards set out in Canadian Securities Administrators National Instrument 43-101 ("NI 43-101"). The NI 43-101 Technical Report has an effective date of September 12, 2014.

Brazil Resources Inc. (BRI) acquired its 75% interest in the Rea property through its acquisition of Brazilian Gold Corporation (BGC) on November 21, 2013. The Rea property is located in northeast Alberta and covers part of the western Athabasca Basin. The Athabasca Basin is a Proterozoic-aged sedimentary sequence, which overlies unconformably the Archean Rae Province in the west and the Archean Hearne Province in the east. It is the world's foremost host of high-grade unconformity-type uranium deposits and currently produces approximately 15.5% of the World's supply of uranium, as of 2014 - http://www.world-nuclear.org/info/Country-Profiles/Countries-A-F/Canada--Uranium/.

The Rea property consists of 12 contiguous mineral claim permits totaling 88,464 Ha with an anniversary date of February 11. The property surrounds the high-grade Maybelle (Dragon Lake) deposit, which is part of the Maybelle property owned by a consortium consisting of Areva Resources Canada Inc. (AREVA), Japan-Canada Uranium (JCU), and Cameco Corporation. Expenditures on the Rea Property by BGC, now a wholly owned subsidiary of BRI, to date, total over $5 million. BGC did not complete exploration programs in the 5th exploration period due to the uncertainty of the land use designation of the property during the implementation of the Lower Athabasca Regional Plan (LARP). The LARP designed by the Alberta government was to identify and set resource and environmental management outcomes for air, land, water and biodiversity, and guide future resource decisions while considering social and economic impacts. On August 22, 2012, the Government of Alberta approved the Lower Athabasca Regional Plan (LARP), which involved more than three years of consultations with Albertans, First Nations and experts on social, economic and environmental issues. The plan sets the stage for land-use in northeast Alberta and as part of the plan, established a Public Land Area for Recreation and
Tourism (PLART) over some of the Rea Permits; the PLART designation does not prohibit further exploration work nor the exploitation of any mineral resources found on this ground.

As previously mentioned, when BRI acquired BGC, the Rea permits were near the end of their 5th exploration period (Feb. 11, 2014). BRI requested and received a 1-year extension from the government of Alberta to fulfill its assessment commitments and thereby keep the permits in good standing.

The Property is located 175 km northwest of Fort McMurray in northeastern Alberta, Canada. The center of the property is approximately 30 km east of the Alberta-Saskatchewan border and 42 km south of Lake Athabasca. The Property is located within National Topographic System (NTS) map areas 74E and 74L.

The Property is accessible year-round by fixed wing float or ski equipped aircraft and helicopter from Fort McMurray or by a winter road that connects Fort McKay and Fort Chipewyan. Fixed wing aircraft and helicopters are readily available for charter in Fort McMurray. Fort McMurray is approximately 500 km north of Edmonton by road, and is served by daily commercial flights from Edmonton, Calgary, Vancouver, Toronto and other communities where people regularly commute to and from the Athabasca oil sands projects. Fort Chipewyan is serviced by daily commercial flights from Edmonton and Fort McMurray. Early stage mineral exploration such as prospecting and geological mapping can be carried out on the Property from early June to October. Airborne geophysics, diamond drilling, and ground geophysics can be performed year-round.

As exploration activities expanded outward from the established Beaverlodge uranium district of the 1950’s, the western parts of the Athabasca Basin saw its first exploration programs in the early 1960’s. A second burst of exploration in the 1970s resulted in major discoveries in the Athabasca Basin in northern Saskatchewan, with mines at Rabbit Lake, Cluff Lake, and Key Lake starting up in 1975, 1980, and 1983, respectively. The unconformity-type Cluff Lake deposit was discovered in 1971. West of Cluff Lake in northern Alberta, the majority of exploration was carried out by Uranerz Exploration and Mining Ltd. (Uranerz); both north and
south of Lake Athabasca, including a large area covering the present-day Rea property. Continued exploration south of Cluff Lake from 1990 onwards led to the discovery of high-grade unconformity-type mineralization at Shea Creek in 1995. Drilling carried out on the Shea Creek property from 1992 to the end of 2009 led to mineral resource estimates for the Kianna, Anne, and Colette uranium deposits. As well, continued drilling by Uranerz south of Lake Athabasca led to the discovery of high-grade unconformity-type mineralization at Maybelle River in 1988.

The Rea Property is located within the western margin of the Athabasca Basin in which the target is uranium mineralization hosted at or near the unconformity between the Archean crystalline basement and the Proterozoic Athabasca Group. To the north, the Alberta shield encompasses crystalline basement rocks of the Taltson magmatic zone (TMZ). The TMZ extends to the south under the western Athabasca Basin into the property area. The TMZ is predominantly comprised of granites, granite gneisses, mylonites, and metavolcanic and metasedimentary rocks. The Property contains the following units of the Athabasca Group from oldest to youngest: the Fair Point Formation, the Manitou Falls Formation and the Lazenby Lake Formation. The Rea Property surrounds the Maybelle property, which includes the Maybelle/Dragon Lake high-grade uranium deposit. The Maybelle/Dragon Lake deposit is hosted within the Maybelle River Shear Zone (MRSZ). The northern and southern continuation of the MRSZ extends onto the Rea Property. Several electromagnetic conductors (EM, i.e. graphite-sulfide-rich shear zones) occur parallel to and east of the MRSZ on the Rea Property and are considered highly prospective for hosting uranium mineralization.

The target of exploration on the Rea Property is unconformity-type uranium deposits. To date, no economic uranium mineralization has been identified within the property. However, several drill holes have intersected alteration and breccia zones with anomalous concentrations of uranium and associated pathfinder elements, key features associated with unconformity-type uranium deposits. The Company's prime interest on the Property is for the discovery of uranium mineralization at or near the unconformity, similar to the nearby Maybelle, Maurice Bay, Shea Creek, Cluff Lake, and Patterson Lake South uranium deposits, and the Eagle Point, Rabbit Lake, Roughrider, Cigar Lake, McArthur River, Millennium, Phoenix, and Key Lake uranium deposits of the eastern Athabasca Basin.
A ground geophysics and diamond drilling exploration program has been proposed by BRI targeting two high priority areas (North and West Zones) defined by airborne geophysical surveys (magnetic, electromagnetic, gravity, and radiometric) in 2005 and 2009, and drilling completed in the 1980's and 1990's. The proposed program includes ground geophysics, i.e. a moving loop transient electromagnetic survey over the West Zone, followed possibly by radon and helium surveys in selected priority areas to assist in the detection of subsurface uranium occurrences. A diamond drill program up to 2,600 meters is proposed to test selected geophysical and drill hole geochemical anomalies in the North Zone. The estimated cost for the proposed exploration program on the Property is ~$1,200,000, including $100,000 for the ground geophysical survey.

The Authors have reviewed in detail the proposed exploration program on the Property. In light of the observations made in this report, the Authors support the concepts of the proposed exploration program by BRI. Given the highly prospective nature of this property, it is the opinion of the Authors that the Property merits further exploration and that BRI’s proposed plans are properly conceived and justified.

In summary, the Authors recommend that BRI conducts the proposed exploration program subject to the availability of funding and any other matters, which may cause the proposed exploration program to be altered in the normal course of its business activities or alterations, which may affect the program as a result of exploration activities themselves.
2. INTRODUCTION

Brazil Resources Inc. (“BRI”) commissioned the authors to complete an independent National Instrument 43-101 Technical Report ("NI 43-101") summarizing the historic exploration work that has been carried out on the Rea property in northeastern Alberta and to review the proposed exploration program and budget by BRI; the effective date of this report is September 12th, 2014.

The Authors of the technical report (Irvine R. Annesley, Ph.D., P.Geo. and Roy Eccles, M.Sc., P.Geol.), are Qualified Persons as defined by NI 43-101, used sources of information as listed in the references. The report is a compilation of publicly available, technical scientific information, as well as information obtained during a recent property visit by Eccles on July 8, 2014. The referenced government assessment reports were prepared by a person or persons holding post-secondary geology, or related university degree(s), prior to the implementation of the standards relating to National Instrument 43-101. Therefore, the information, data, and maps within those reports are assumed to be accurate, but the authors cannot verify the accuracy of the information.
3. RELIANCE ON OTHER EXPERTS

Information concerning claim status, ownership, and assessment requirements as documented in Section 4.2 has been provided by BRI. The authors have not independently researched or verified the mineral title, ownership or assessment requirements.

However, the Authors have no reason to doubt that the title situation is other than what is presented here.
4. PROPERTY DESCRIPTION AND LOCATION

4.1 Property Location and Area

The Rea property is located on the western edge of the Athabasca Basin in northeast Alberta (Figure 1), about 45 km west-southwest of Cluff Lake and approximately 185 km north-northwest of Fort McMurray. It is found between 57°51’59" and 58°26’29"N latitude and 110°50’38" and 110°00’00"W longitude (Figure 1). The mineral claims occupy portions of 1:250,000 scale National Topographic System (NTS) map sheets 74L and 74E.

4.2 Property Description

The Rea property consists of 12 contiguous Metallic and Industrial Mineral Permits totaling 88,464 Ha (Figure 3, Table 1). Table 1 includes the dates in which the mineral permits were recorded and the Expiration Date. The permits are currently in their 6th two-year exploration period (2014 to 2016) and are good for one more (7th period) two-year exploration period (2017 to 2018), provided sufficient assessment work is completed in both these work periods; a Metallic and Industrial Mineral Permit is not renewable. The assessment amounts that are required for each permit are outlined in Section 4.5 and 4.6. At the end of the 14-year period Metallic and Industrial Mineral Permit, the owner may apply for a Metallic and Industrial Mineral Lease, which is for projects in the development or production stage. A Metallic and Industrial Mineral Lease is good for 15 years and is renewable. There are no privately held surface rights to any area of the property. During the preparation of this report, BRI applied for and was granted four additional Metallic and Industrial Mineral Permits contiguous with and east of the 12 permits mentioned above. These permits have not been included in this report.

4.3 The Nature and Extent of the Issuer’s Title to, or Interest in, the Property

Brazil Resources Inc. acquired its interest in the Property through its acquisition of Brazilian Gold Corporation (formerly Red Dragon Resources Corp.), which had entered into an option agreement in June 2005 with Stout Investments Ltd. (Stout), to acquire a 100% undivided interest in all mineral rights (except diamonds) for the Rea project mineral permits, in exchange for cash and shares. Valley Gold and Earl Dodson have a 3% Gross Overriding Royalty (GORR) on mineral production, which Brazil Resources can reduce to 2% by making a cash payment of
C$2 million. Brazil Resources Inc. is required to spend a minimum of CND $500,000 for each two-year assessment period plus all required assessment expenditures.

In March 2006, Red Dragon Resources Corp. entered into an option agreement with Uramin Inc. (Uramin). Pursuant to which Uramin had the right to earn up to a 50% working interest in the Rea project by spending US$5.5 million and making option payments of US$1.1 million over a three year period ending March 31, 2009. In August 2007, Uramin became a wholly owned subsidiary of the AREVA group. By March 31, 2009 Uramin had earned a 25% interest in the Rea project. Subsequent revisions to the option agreement provided for Uramin to earn an additional 25% interest in the project increasing its ownership to 50% by spending an additional CND $2,836,616 in exploration costs by December 31, 2013.

On November 18, 2012, AREVA advised Brazilian Gold Corporation (now Brazilian Resources Inc.) that it was not interested in acquiring the additional 25% interest in the Rea Uranium Project. As such, AREVA vested at 25%.

4.4 Environmental Liabilities

To date, there are no mine workings, tailing ponds, waste deposits or other significant natural or man-made features on the claims. Consequently, the Property is not subject to any liabilities due to previous mining activities that may impact future development of the property.

4.5 Annual Expenditures

Metallic and Industrial Mineral Permits in Alberta are valid for a 14-year period (seven 2-year assessment periods) providing sufficient exploration work has been completed in each 2-year period on the permit. A permit holder is required to spend on assessment work an amount equal to $5 for each hectare during the first two-year assessment period; an amount equal to $10 per hectare for each of the second and third two-year periods; and an amount equal to $15 per hectare for each of the fourth through seventh two-year periods. Contiguous mineral permits may be grouped and excess expenditures may be carried into the next two-year period. In addition to the work commitment, a metallic mineral permit holder is required to file an assessment report
that documents all of the exploration expenditures and work conducted as well as the results of the work to Alberta Energy. The assessment report must be filed within 60 days after the record date after each two-year period.

4.6 Permits for Exploration

Alberta Mining regulations grant metallic and industrial mineral permits to the permittee for 14 years in total (i.e. seven 2-year terms) during which at any time after the initial two-year term the mineral permit may be converted into a lease. Leases are granted for a 15-year terms and are renewable. A granted metallic mineral permit gives BRI the exclusive right to explore for and develop economic deposits of minerals, including uranium, within the boundaries of the permit. The exclusive right to explore is subject to ALBERTA REGULATION 213/98 of the Alberta Mines and Minerals Act and the contained Metallic and Industrial Minerals Regulations within the act. The Standard Terms and Conditions for the metallic and industrial mineral permits are described in detail on Alberta Energy’s website at http://www.energy.gov.ab.ca/1224.asp. BRI currently holds all necessary permits from Alberta Energy that is required to conduct exploration on the Property. See Section 4.2 and Table 1 for expiration date of claims, tenures or licenses.
FIGURE 1: Location of Rea Project in Northeastern Alberta.
TABLE 1. Rea Property Mineral Permit Summary Table

Note: The permits are currently in their 6th two-year exploration period (2014 to 2016) and are good for one more (7th period) two-year exploration period (2017 to 2018), provided sufficient assessment work is completed in both these work periods.

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5. ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

The property area is accessible year-round by helicopter or fixed-wing aircraft. Fixed-wing aircraft can access the property using floats during the summer and skis during the winter. The winter road to Fort Chipewyan is usually opened in January and may be used until late March, thus providing access during winter drilling programs. Numerous gravel roads from historic drill programs traverse the property. An all-season road services AREVA’s Cluff Lake Mine Site, about 50 km east-northeast in Saskatchewan.

Fixed wing aircrafts are available for charter at Fort McMurray in Alberta, and Buffalo Narrows, La Loche, and La Ronge in Saskatchewan. Helicopters are available for charter at Fort McMurray and La Ronge. Food, fuel, and supplies are available at Fort McMurray, Prince Albert, or Meadow Lake. Food, fuel, and limited supplies are also available at La Loche and Buffalo Narrows located to the southeast. Fort McMurray, located southwest of the property, is less than one hour by helicopter or fixed-wing flight. Also, the Cluff Lake site and its airstrip to the east-northeast can be used for staging of geophysical surveys.

The topography of northern Alberta is characterized by low hills, ridges, drumlins and eskers. Lakes and muskeg are common in the low-lying areas. The geomorphology is dominated by glacial and periglacial unconsolidated sediments that were produced during several ice advances. Outcrops of the Athabasca sandstone and underlying basement rocks are rare. Numerous lakes and ponds generally show a north-easterly elongation imparted by the most recent glaciation. The elevation of the Rea area is approximately 200-500 m above sea level (ASL). The area is covered by thinly wooded boreal forest. Vegetation consists of jack pine, black spruce, and tamarack with willows and alders in the lower wet areas, while ground cover comprises primarily reindeer lichen and Labrador tea.

The Property is within a sub-arctic climate region. Winters are generally extremely cold and dry with temperatures regularly dropping below -30°C, sometimes to -45°C. Lakes start freezing up in early November and ice break-up occurs generally in late April into early May. The cold temperatures allow for development of a sufficient ice thickness to support a drill rig in most
winters from mid-January to mid-April. Temperatures in the summer vary widely with yearly maxima of 30°C or more often recorded in late July or early August. Early stage (Greenfields) mineral exploration, like prospecting and geological mapping, can be carried out on the Property in summer from early June to October. Diamond drilling and geophysical surveys can be carried out year-round.

The Property has sufficient surface area for the conduct of any envisaged mining and mineral processing operations. There is an adequate availability of water, potential tailings storage areas, potential waste disposal areas, and potential processing plant sites on the Property. There is no power on the property. Mining personnel would come from Fort McMurray and surrounding communities for any envisaged potential mining and mineral processing operations.
6. HISTORY

6.1 Regional Exploration History

The western portions of the Athabasca Basin were initially explored in the 1960’s as exploration activities expanded outward from the established Beaverlodge uranium district utilizing airborne radiometric (scintillometer) surveys (Palmer, 2010). From 1976 to 1985, the Athabasca Basin was subject to a uranium exploration boom. The bulk of the significant uranium discoveries to date are located in the Saskatchewan portion of the basin with the exception of the Maybelle River (Dragon Lake) deposit in Alberta, which was discovered by a Uranerz Exploration and Mining Limited drilling program in 1988 (Orr, 1989). The Maybelle (Dragon Lake) deposit and the majority of the shear zone hosting the deposit is covered by a number of leases (Maybelle Property) that are owned by AREVA, Japan-Canada Uranium (JCU), and Cameco Corporation. The Rea Uranium Property surrounds the Maybelle Property and covers the extensions to the shear zone that hosts the Maybelle deposit as well as numerous parallel conductors. AREVA and its partners continue to explore the Maybelle deposit and drilling in 2002 confirmed relatively shallow mineralization with grades up to 40% U3O8. Recent studies (Kupsch, 2003; Wheatley and Cutts, 2013) have shown geochemical similarities between uranium mineralization in the Maybelle deposit to that of deposits in the Saskatchewan portion of the Athabasca Basin.

The description of work performed by Norcen Energy Resources Limited is taken from Morales and Koning, 2010, and Carroll and Morales, 2011, as follows:

Norcen acquired two blocks of mineral permits in 1976. The Archer permits covered an area of 72,439 ha and included former permits 208, 209, 210 and 211. Most of this ground is now covered by the Rea mineral permits. The Richardson Permits totalled 92, 916 ha and included permits 6876120002 to 6876120006, which were situated to the west of the Rea mineral permits. During the summer of 1976, Norcen conducted a combined prospecting, surficial and lake-bottom geochemical study over the Archer permits.

Norcen concluded from this study that the margin of the Athabasca Formation was located much further to the west than indicated on the geological maps published by the Research Council of Alberta. In light of this information, large sections of the permits were surrendered to the crown
and additional permits south of Richardson Lake were acquired.

In 1977, Norcen conducted a stratigraphic drilling program over its permits; eight BQ holes were drilled for a total of 1,245 metres (McWilliams and Sawyer, 1977). Three holes were drilled on the Archer permits. Hole R5 (FC-014) was drilled on Rea mineral permit 9304020444 (permit 211); the hole was stopped in Athabasca sandstone at a depth of 252.2 metres. Hole R7 (FC-016) was drilled on formerly held Rea mineral permit 9304020435 (permit 210). The hole was stopped in Athabasca sandstone at a depth of 184.2 metres. Drill hole R8 (FC-017) was drilled on Rea mineral permit 9304020429 (permit 208); the hole was stopped in Athabasca sandstone at a depth of 227.8 metres.

Norcen recommended that no further work be conducted over the Archer permits because the depth to the unconformity exceeds 150 metres. Norcen concluded that state of the art geochemical and geophysical tools are unable to detect uranium mineralization at this depth. The Archer permits were surrendered to the crown on their anniversary date.

The description of work performed by BP Minerals Limited is taken from Morales and Koning, 2010, and Carroll and Morales, 2011, as follows:

BP Minerals Limited were granted permits 229, 230 and 231 in January 1976 and conducted extensive Track Etch and thoron filtered Track Etch surveys in the summers of 1976 and 1977. In 1978, BP Minerals Limited completed diamond drilling on three permits areas (229 to 231) to the west of Rea mineral permit 9304020444 in the Keane Creek area (Bradley, 1978). Three BQ holes were drilled for a total of 805.0 meters; the holes were sited one per permit, on Track Etch anomalies having nearby water supplies. Only one drill hole (kDH 78-3) intersected the unconformity at a depth of 259.0 meters. The basement is composed of garnet bearing granitic gneiss and augen gneiss.

The description of work performed by Eldorado Nuclear Ltd. is taken from Dufresne and Maynes, 2006 as follows:

Eldorado Nuclear Ltd. (Eldorado) began exploring the area now partially covered by the Rea Uranium Property (permits 9304020441, 930420440, 9304020438, 9304020437, 9304020436,
9304020433, and 9304020432) in 1974. They conducted exploration including prospecting in 1974 and 1975 on their property between the Maybelle and Richardson rivers. During 1975, various surveys including regional lake and stream sediment, water geochemistry and soil sampling were conducted to test the areas of lake-geochemical anomalies. Radiometric prospecting and boulder mapping were also performed (Laanela, 1977a, b). During the summer of 1975, a total of 778 lake and sediment and 1,010 soil samples were collected (Moreau and Laanela, 1976; Figures 3, 4 and 7; Appendices 1 and 2) on and or adjacent to the current Rea property. In addition, helicopter-borne radiometric prospecting with scintillometers, as well as a VLF-EM 16 survey and boulder mapping, was conducted (Laanela, 1977a). Additional in-fill lake sampling was completed during 1976 and sixteen diamond drill holes were drilled during the winter of 1976-1977 (Laanela, 1977a).

Four of the sixteen Eldorado drill holes were drilled directly on the current Rea property with disappointing results although a number of these drill holes did not intersect the contact between the Athabasca basin sediments and the underlying basement rocks (Figures 5 and 7). The historic drill hole locations were compiled by Olson et al. (1994). Drill hole 508-8, totaling 187 feet, was drilled in the southeast corner of permit 9304020437 (Twp105, R4, section 2SW) on November 30, 1976 and was abandoned due to poor drilling conditions. On December 4, 1976, drill hole 508-9 was drilled to 597 feet on the northwestern portion of permit 9304020437 (Twp105, R4 in section 29NE). Drill hole 508-9 was partially probed for radioactive anomalies and yielded no anomalous radioactivity results. On December 7, drill hole 508-10 was drilled to 375 feet on the northern portion of permit 9304020434 (Twp105, R5, section 4NE-SE). It was abandoned due to sand cave-in, leaving behind lost rods and a core-barrel in the hole. Drill hole 508-11 was drilled to 224 feet on December 11, 1976 (Twp104, R5, section 15SE) in the southwestern portion of permit 9304020434 and was abandoned due to a shortage of casing. Eldorado acquired new permits south of their existing property in early 1976, calling it Project 508, largely due to poor results from geochemical surveys and drilling, a lack of uraniferous boulders and outcrops, the large thicknesses of overburden and the number and complexity of glacial deposits (Laanela, 1977b, 1978). During the winter of 1976 to 1977 and early 1978, Eldorado successfully carried out two drilling programs to find the edge of the Athabasca Formation (marking the unconformity between the Athabasca Sandstone and Precambrian
basement), showing that it lays between the Maybelle and Richardson rivers (Laanela, 1978). In 1976, Eldorado’s fieldwork consisted of various regional surveys, including regional lake and stream sediment and water geochemistry, semi-detailed soil sampling, radiometric prospecting and boulder mapping (Laanela, 1977a, b). In April of 1977, an airborne magnetic and EM survey was flown over identified lake geochemical anomalies and highlighted a number of EM conductors (Laanela, 1977c). The 1977 summer program’s groundwork was comprised of geochemical and geophysical surveys including VLF-EM, magnetic, and resistivity, as well as a semi-regional muskeg-geochemical survey, detailed prospecting, mineralized boulder hunting and a soil gas survey (Laanela, 1978b). Eldorado’s 1978 summer geophysical program to test EM conductors was comprised of gridding and ground geophysical surveying, with horizontal loop EM and magnetometer, delineating a number of zones relating to the basement structures and Devonian sediments (Mitchell and Fortuna, 1978). After winter drilling in 1979, Eldorado ceased exploration activities in Project 508, having concluded that only very expensive exploration methods could be applied to evaluate the area, given the added complexity as a result of Devonian sediment cover (Fortuna, 1979).

The description of work performed by Uranerz Exploration and Mining Ltd. is taken from Dufresne and Maynes, 2006 as follows:

Uranerz Exploration and Mining Limited (Uranerz) was historically one the most active companies in the Athabasca Basin during the 1970 - 1980's uranium exploration boom. In their project area covering most of the present-day Rea Property, Uranerz flew regional aeromagnetic surveys in 1984 and 1986. Uranerz also conducted horizontal loop EM, pulse EM, and gravity surveys over selected targets. During the summer of 1985, lake sediment geochemistry was carried out to test for uranium and arsenic in the area as well as resistivity profiling and depth sounding. The 1985-86 winter program consisted of time domain EM (TDEM) surveys, diamond drilling (338 lithogeochemical samples), petrography, age dating, and a thermoluminescence test survey (Orr, 1986). Electromagnetic surveys in 1987 resulted in the identification of a set of prominent EM conductors striking north-northwest along two trends (Maybelle River trend and Net Lake trends identified in Figure 7). These EM trends are spatially associated with what is interpreted as northwest trending mylonite belts based upon magnetics. The Maybelle River EM Trend is covered by AREVA leases for 27 km and by BRI exploration permits for 15 km. The
Net Lake Trend lies to the west of the Maybelle River Trend and is within BRI's Rea Property permits. Uranerz drilled a total of eighteen holes along the Net Lake Trend in 1987, several of which intersected geochemically anomalous U, as well as other metals such as V, Ni, Co, and As (Orr et al., 1989; Figure 7). During 1988, diamond drilling by Uranerz resulted in the discovery of the Maybelle River Deposit along the Maybelle River EM Trend with high-grade U intersections, including 17% U₃O₈ across 2 m core length in drill hole MR-34 and 21% U₃O₈ across 5 m core length intersected in drill hole MR-39 (Orr et al., 1989; Figure 7). This uranium deposit lies entirely within the area of AREVA’s lease. The following review of prior exploration by Uranerz is focused on land now partially covered by the Rea Property.

Between January 29th and February 23rd, 1988, Uranerz conducted a ground geophysical program on their Maybelle River Property (permits 9304020438, 9304020437, 9304020434, 9304020444, 9304020443, 9304020441, 9304020440) consisting of TDEM surveys. The surveys consisted of fixed loops 600 m by 600 m and 800 m by 800 m and moving loops of 100 m and 200 m by 200 m with station spacing of 50 m. A total of 18.65 line-km of fixed loop and 2.55 line-km of moving loop TDEM surveys were completed (Robertshaw, 1989). During the winter of 1989, a moving loop TDEM survey was completed leading to drilling on what is now permits 9304020444 and 9304020446 (Orr and Lacey, 1991). Following this, eighteen moving loop TDEM and two fixed-loops surveys were completed at eleven separate locations on the current Rea Property (permits 9304020440, 9304020441, 9304020443, 9304020436, 9304020437, 9304020438). For the surveys, transmitter loops varied in size by 100 m by 100 m to 300 m by 300 m to adapt to the varying sandstone thicknesses on the property. In total, during winter 1989 and 1990, 25.35 line-km of moving loop coverage and 15.45 line-km of fixed loop coverage were completed (Orr and Lacey, 1991).

During 1988 to 1990, Uranerz conducted three diamond drilling programs on the west-southwest part of the current Rea Property. Drill holes MR68, MR69, MR72, and MR84, totaling 1,822.7 m, were drilled on the eastern portion of permit 9304020444 along the northern extension of the Maybelle River Trend. MR68 yielded several positive lithogeochemical indications within the Manitou Falls formation with up to 1.4 ppm bismuth and 3.1 ppm uranium and beneath the unconformity, a 1 m sample of basement yielded 35 ppm and 25 ppm total and partial U as well
as 160 ppm Ni, 9.6 ppm bismuth and 23 ppm lead. The down hole log yielded a minor radiometric peak of 100 counts per second (cps). Drill hole MR69 yielded several minor radiometric anomalies ranging from 100 to 400 cps with values of up to 87 ppm total U and 92 ppm partial U over 1 m as well as up to 184 ppm Ni. Drill hole MR72 yielded no significant geochemical anomalies; however, it did yield a radiometric peak of 120 cps within the Upper Manitou Falls sandstone. In addition to the anomalous geochemistry, these holes intersected clay alteration, breccia zones and dravite, features associated with unconformity uranium deposits elsewhere in the Athabasca Basin. Drill hole MR84 yielded no significant radiometric or geochemical anomalies (Orr and Lacey, 1990).

Other significant geochemical anomalies were identified in several of the Uranerz drill holes away from the Maybelle River Trend but on land that is covered by the Rea permits. Drill hole MR66 intersected 82 ppm U$_3$O$_8$ over 1 m on permit 9304020436 and targeted an EM conductor parallel to the Maybelle Lake conductor, which extends across the Rea Property to the northwest for a distance of 38 km.

Drilling by Uranerz along the Net Lake Trend has also yielded a number of significant geochemical anomalies including up to 43 ppm U in drill hole MR01, up to 27 ppm U in drill hole MR06 and up to 48 ppm U in drill hole MR08. In a number of cases, the Net Lake Trend drill holes have also yielded other significant geochemical anomalies (usually associated with anomalous levels of U), including up to 766 ppm Ni, 328 ppm Zn and 689 ppm V in hole MR08, and up to 672 ppm Ni and 601 ppm V in drill hole MR13, which also yielded up to 17 ppm U. The Net Lake Trend drilling to date is quite wide spaced, however the drill holes show little in the way of tectonic reactivation, and most of the EM conductors were due to weakly graphitic almost flat-lying meta-sediments. In comparison, the Maybelle River trend consists of a strongly reactivated sub-vertical graphitic conductive system and hosts the only known mineralized zone in the area.

In addition to drilling, Uranerz conducted a surface exploration program during the summer of 1988 (Orr and Lacey, 1991) collecting lake sediment, lake water and stream sediment samples in the Brander Lake-Old Fort River area to follow up on the anomalous values that were uncovered
during a 1987 sampling program; all the samples are located north of the current Rea property. The survey yielded a maximum bottom sediment value of 55.5 ppm U.

In June of 1989, Uranerz placed 51 cups in a track etch survey across the Dragon Lake area to further test the area that was sampled in 1988; this area is covered by the Maybelle project. Results from the first survey in 1988 returned values of 60 pCi/L, which appears to be associated with the mineralization around drill holes MR34, MR39 and MR42 (Orr and Lacey, 1991). It also returned background values of 20 pCi/L associated with the mineralization around drill hole MR53 (Orr and Lacey, 1991). Repeat values results from the second survey Uranerz conducted in 1989 matched the values from the first survey and background values remained equal to or less than 20 pCi/L (Orr and Lacey, 1991). Uranerz conducted other exploration activities during 1989 which consisted of TDEM surveys, lithogeochemistry, and X-ray diffraction (XRD) clay analysis in order to assist in the identification of alteration halos (Orr and Robertshaw, 1989). The following year, in 1990, Uranerz conducted more follow-up programs consisting of lithogeochemistry (562 samples) and XRD clay determinations (198 samples) from the diamond drill core obtained during prior drilling campaigns. The 1990 exploration program also included helicopter-borne EM and magnetic surveys and 4,100 km² of air photo coverage over the property (Orr and Lacey, 1991).

Samples collected by Uranerz Exploration & Mining for petrography in the 1980’s and 1997, respectively, were sent to Vancouver Petrographics in Vancouver and SRC in Saskatoon for the preparation of thin sections and polished slabs. Petrographic analysis was performed in the respective offices using a petrographic microscope equipped with both transmitted and reflected light. The major results of the petrographic analysis are documented in Orr (1986, 1989), Orr and Lacey (1990), and Shi and Annesley (1997), among others.

In 1998, Cameco acquired a 100% interest in Uranerz, and as a result acquired a 100% interest in the Maybelle River Property. Cameco has subsequently sold a portion of its interest in the Maybelle property to AREVA and Japan-Canada Uranium (JCU).

The description of work performed by Brazilian Gold Corporation (formerly Red Dragon
In late 2005, Red Dragon commissioned a helicopter borne electromagnetic and magnetometer Versatile Time Domain Electromagnetic (VTEM) survey covering 5,542 line kilometers. The survey covered an area that includes both the Maybelle and Rea Properties. The survey is estimated to have penetrated to depths of 400 m or more. The survey was flown to target bedrock conductors (graphitic horizons) and fault zones which may be associated with unconformity related U mineralization. The survey resulted in the identification of a number of basement related magnetic anomalies and EM conductors (Figure 3).

A total of 1,319 line km of electromagnetic (EM) anomalies were identified within the Rea Property area from the airborne geophysical data and interpreted for EM responses similar to those of the Maybelle River Deposit. The fifteen highest priority target areas are dominantly sub-parallel structures surrounding the Maybelle River Shear, and are targets for further exploration (Figure 3).

A geochemical soil sampling program was carried out in May of 2006; the survey returned 346 samples from GPS located sites; poor sampling medium and difficulty in locating good representative samples directed this program to be cut short. There were only 4 samples gathered that were around 1ppm U or above, the maximum value obtained was 3.3ppm U. Also, a total of 54.8 km of IP surveying and line slashing were completed within the Rea Permits during the 2006 geophysical program.

A diamond drill program of 1,908m in 8 holes (2007) tested six airborne EM anomalies. The program tested several conductors along and parallel to the north-northwest trending Maybelle River conductor that is known to host high grade U mineralization. None of the drill holes intersected graphitic units or graphitic faults and no significant U mineralization. The highest U value obtained was in drill hole R130107; 54ppm U in the Fair Point Formation, some 6.0 m above the unconformity.
FIGURE 3: Surficial geochemistry and VTEM conductors.
The description of work performed by AREVA Resources Canada Inc. is taken from Morales and Koning, 2010, and Carroll and Morales, 2011, as follows:

Aurora Geosciences Ltd. of Yellowknife, Northwest Territories carried out a fixed loop time domain electromagnetic (FLTEM) survey on the Rea Property between June 16th and July 10th, 2008. A total of 41.7 line kilometres of line cutting was performed on three grids: 05, 12 and 15. The grid lines were surveyed with two opposing transmitter loops located at the ends of the survey lines resulting in 46 line kilometres covered with the FLTEM survey. The main objective of the 2008 geophysical program was to locate and characterize interpreted basement conductors outlined in the 2005 airborne EM survey (VTEM).

In general, the results of the 2008 fixed loop EM survey correlate with the results of the 2005 VTEM survey. The use of opposing fixed loop surveys and model derived interpretations should improve the accuracy of the interpreted conductors. However, in complex geological situations, the fixed loop geometries and subsequent interpretations retain some ambiguity. The best results from the 2008 Fixed Loop Survey were obtained on Grid 12; though additional information is required for drill targeting.

In 2009, ARKeX Ltd. was contracted to perform an airborne geophysical survey over the Rea Property in northeastern Alberta, comprising Full Tensor Gravity Gradiometry (FTG), magnetic, and Lidar DTM and video data acquisition. The survey block is rectangular in shape covering an area of 50 kilometres in the north-south direction by 23 kilometres in the east-west direction (Figure 4 from Carroll and Morales, 2011). The survey was initiated on the 29th of August, 2009 and was completed by the 21st of September, 2009. A total of 4,352 line-kilometres were flown (including tie-lines), comprising 3,800 kilometres of north-south oriented survey lines (300 metre spacing) and 552 kilometers of east-west oriented tie lines (2,000 meter spacing). Ground elevations vary from 217 metres ASL to 403 metres ASL with a mean elevation of 307 metres ASL. The survey was flown to follow a 3D drape at a height of 185 m above the drape. The height above ground was set at this height to produce maximum Lidar coverage from minimal line km. A more detailed account can be found in the Data Acquisition Report in Appendix I of Carroll and Morales (2011).
In 2010, ARKeX Ltd was contracted by AREVA Resources Canada Inc. to perform the interpretation/modelling of the gravity data acquired during the 2009 airborne survey (Figure 5) over the Rea Property; the interpretation included cluster analysis of the various available geophysical datasets. The *ARKeX BlueQube Survey Interpretation Report*, which includes all the technical details and interpretation results, is presented in Appendix III of Carroll and Morales (2011). All full scale maps produced can be found in Part C of Carroll and Morales (2011).
FIGURE 4: The rectangular 50 km x 23 km survey block of the Full Tensor Gravity Gradiometry (FTG), magnetic, and Lidar DTM and video data acquisition in 2009.
FIGURE 5: Airborne Full Tensor Gravity Gradiometry (FTG) survey map (Gss).
The following are the main conclusions from Carroll and Morales (2011):

- Detailed interpretation of numerous datasets resulting in a comprehensive geological structure map, incorporated in a regional overview.
- Delineation of 24 targets areas ranked by their geophysical signature and correlation with known geology.
- Confirmation that the basement topography currently used by AREVA is a reasonably close approximation to the actual basement surface.

The recommendations for follow up include compiling all the 24 target areas with existing surface geochemistry and geophysics in an effort to prioritize the most prospective areas for follow-up exploration. Additional ground-based geophysics over some of the target areas will likely be required to establish firm drill targets.
7. GEOLOGICAL SETTING AND MINERALIZATION

The description of “GEOLOGICAL SETTING AND MINERALIZATION“ is taken from Morales and Koning, 2010, and Carroll and Morales, 2011, as follows:

7.1 Regional Bedrock Geology

The Rea Property area is located on the western edge of the Precambrian Churchill Structural Province of the Canadian Shield (Figures 6, 7, 8, and 9) and it is situated in the west portion of the Athabasca Basin. The sub-Athabasca basement of the area is situated within the Lloyd Domain and west of the Clearwater Domain, two major subdivisions of the Rae Province (Lewry and Sibbald, 1977; Card, 2001, 2002).

The rocks underlying the western part of the Athabasca Basin comprise a complexly deformed and strongly metamorphosed crystalline basement of Archean to Paleoproterozoic age that is overlain unconformably by relatively unmetamorphosed quartz-arenite sandstone of late Paleoproterozoic to Mesoproterozoic age. The crystalline basement in this region is considered to be mostly part of the Lloyd Domain (Careen Lake Group) of the Rae Province, whilst the overlying sandstone, the Athabasca Group, fills a successor basin that spans parts of both the Rae and Hearne provinces (Figures 6, 7, and 9). The Rae and Hearne provinces form parts of the Churchill Structural Province of the Canadian Shield (Hoffman, 1990).

The Lloyd Domain forms the majority of the crystalline basement in northwestern Saskatchewan, south of Lake Athabasca. It is bounded in the east and south by the Snowbird tectonic zone (Virgin River shear zone) and in the west by the Taltson-Thelon magmatic zone. The northern boundary is problematic (see Card, 2001) due to the overlying Athabasca Group cover that attenuates the geophysical signature of the basement. The domain is informally subdivided, along the Clearwater magnetic high, into the “east” and “west” Lloyd domains (Figure 6, 7, 8, and 9) that were formerly termed the Western Granulite and Firebag domains, respectively (Card, 2002). Exposure of the Lloyd Domain is limited to its eastern edge (Figure 1) south of the Athabasca Basin, with the remainder mostly overlain by Mesoproterozoic and Phanerozoic sedimentary cover of the Athabasca Basin and the Western Canada Sedimentary
The rocks of the crystalline metamorphic basement comprise a dominantly supracrustal package of psammo-pelitic gneiss, psammitic gneiss, pelitic gneiss, and garnet diatexite with subordinate metaquartzite, amphibolite, and ultramafic rock that are currently assigned to the Careen Lake Group (see Scott, 1985; Card et al., 2007). The supracrustal rocks were later intruded by significant/dominant amounts of granodiorite, quartz diorite, monzodiorite, and minor gabbro that, collectively, are termed the ‘quartz diorite suite’ (Card, 2002). The Lloyd Domain had previously generally been considered to be of Archean age (e.g. Lewry and Sibbald, 1977; Hoffman, 1990). However, recent work by Stern et al. (2003) has dated granodiorite from the ‘quartz diorite suite’ at 1.98 Ga, an age that is similar to granitic intrusions within the Taltson magmatic zone in northeastern Alberta, implying that the influence of Taltson magmatic activity (Paleoproterozoic) was much more widespread within the Lloyd Domain than previously thought (Card et al., 2007). Additionally, many of the supracrustal rocks in the Lloyd Domain closely resemble early Paleoproterozoic equivalents within the Taltson magmatic zone and further support a significant amount of Paleoproterozoic aged rocks in the Lloyd Domain, although Archean age supracrustal rocks are probable in the Careen Lake area (Card et al., 2007).

The dominant metamorphic event observed in the Lloyd Domain is a 1.94-1.93 Ga upper amphibolite to granulite grade event overprinted by a later 1.9 Ga upper-greenschist to amphibolite grade event (Card et al., 2007 and Stern et al., 2003). The age of the former event approximates the age of peak metamorphism in the Taltson-Thelon magmatic zone while the latter event may be related to a 1.9 Ga event that is recorded in the Beaverlodge and Tantato domains to the north and northeast, possibly related to late granite emplacement along the Taltson-Thelon magmatic zone (Card et al., 2007). These earlier metamorphic assemblages apparently predate the first deformation events along the Virgin River shear zone and in the Mudjatik Domain. Later retrograde metamorphism (approximately 1.8 Ga) may be related to the onset of the Trans-Hudson orogen to the east (Lewry and Sibbald, 1977; Card et al., 2007).

There are four phases of ductile deformation currently recognized within the Lloyd Domain (Card et al., 2007). Late Archean D0 deformation related to M1 metamorphism produced
recumbent folding. Early Taltson-Thelon D1 deformation (~1985 Ma) produced shallowly NNE- to NE-dipping regional gneissosity that steepens with proximity to the Virgin River shear zone and is complexly reoriented due to later events (Card, 2002). The second regional deformation (D2; ~1900 Ma), also likely related to Taltson-Thelon events, is characterized by NNW to NNE plunging folds with moderately dipping NW-dipping axial surfaces and probably related to the onset of movement along the Virgin River shear zone. The third deformation event (D3; ~1820 Ma) is interpreted be related to major Hudsonian-age movements along the Virgin River shear zone characterized by a NE-trending mylonite zone with a gently NE plunging lineation (Card, 2002). This lineation has been overprinted by later subvertically plunging lineations that record later dip-slip movement(s). The fourth deformation event (D4; post-1800 Ma) comprises poorly developed WNW to NW-trending folds that may be related to a sinistral component of movement along the Virgin River shear zone; although, kinematic evidence suggests a dominantly dextral movement history for the shear zone (Card, 2002).

Brittle deformation has undoubtedly affected a large number of the earlier ductile shear zones. One of the dominant brittle-ductile sets is a north to NNW-trending series of structural breaks with apparent sinistral movement that may be related to the Tabbernor Fault system that affects much of northern Saskatchewan (Card et al., 2003).

The Clearwater Domain is exposed along the Clearwater River south of the Athabasca Basin margin. This domain is expressed by a conspicuous regional positive magnetic trend that bisects the entire Lloyd Domain in a NNE alignment (Figure 8). Three lithologic groups are recognized; granitic gneiss, K-feldspar porphyritic gneiss, and equigranular granite (Lewry and Sibbald, 1977 and Card, 2002). Lewry and Sibbald (1977) considered the granitic gneiss to be more similar to gneisses found in the Mudjatik Domain, east of the Snowbird tectonic zone. The granitic gneiss is considered to be the oldest unit as is suggested by the presence of granitic gneiss xenoliths within the equigranular granite phase. Data by Stern et al. (2003) support this observation with a 2.53 Ga age on the granitic gneiss inclusions and a 1.84 Ga age on the K-feldspar porphyritic granite. The source of the magnetic signature is thought to be caused by magnetite entrained within the granitic gneiss with a further contribution from magnetite concentrated near the contact zones of xenoliths and small late aplite dykes (Card, 2002).
The rocks of the Clearwater Domain possibly record the earliest metamorphic event in the southern Rae Province as well as one of the latest events. The granitic gneiss (2.5 Ga) is similar in age to a 2.6 Ga event (overprinting an earlier 3.2 Ga event) that is recorded within the highly deformed Tantato Domain, north of the Lloyd Domain (Hanmer, 1997). The K-feldspar porphyritic granite (1.84 Ga) is similar in age to the Trans-Hudson orogen, although this age would imply emplacement of the porphyry in the waning stages of the orogen (Card et al., 2007). Post-Hudsonian crustal instability resulted in the development of three northeast trending sub-basins within the greater Athabasca Basin. Multiple series of transgressive sedimentary deposits were lain down as a result of tectonic activity and fault reactivation along Hudsonian northeast trending zones (Ramaekers, 1990).

The Athabasca Group comprises the Proterozoic cover sequence over the crystalline basement described above. Its thickness ranges from zero at the basin edge to in excess of 1200 meters in the east-central part of the western Athabasca Basin. Maximum thickness of the sediments in the central part of the Basin is in excess of 1500 metres. This cover sequence is made up of four major sedimentary sequences, separated by unconformities (Ramaekers et al., 2007). Sequence 1 is the Fair Point Formation; Sequence 2 comprises the Read, Smart, and Manitou Falls formations; Sequence 3 is the Lazenby Lake and Wolverine Point formations, and Sequence 4 is the Locker Lake and Otherside formations plus the overlying former Points Lake Subgroup (Douglas, and Carswell formations).

Table 2 of Morales and Koning (2010) and Carroll and Morales (2011) provides a summary of the sandstone formations identified within the western part of the Athabasca Basin, as presently understood (e.g. Ramaekers et al., 2007, among others). The basement lithologies described in this table are those that underlie the sandstone in the western Athabasca region only.

The following brief description pertains to the various sandstone formations and members that underlie the western Athabasca Basin, according to the most recent work by Ramaekers et al. (2007). One should also refer to the Geological Survey of Canada, Bulletin 588 (EXTECH IV volume) for several comprehensive papers on the geology of the Athabasca Basin, the underlying
crystalline basement, and Athabasca uranium metallogensis.

The sandstone units in this part of the Basin comprise two formations, the ‘upper’ Manitou Falls Formation and the underlying Smart Formation that form part of the Karras deposystem of the Cree Sub-basin (Ramaekers et al., 2007). The Manitou Falls Formation (MF), constituting most of the fill in the Cree Sub-basin and about half the total volume of the Athabasca Basin, is composed of three members in the western part of the Athabasca Basin: ‘uppermost’ Dunlop member (MFd), ‘middle’ Collins member (MFc), and ‘lower’ Warnes member (MFw), formerly termed the MFa/MFb member. The Smart Formation (S), formerly termed the MFa member, conformably underlies the MFw and rests directly on crystalline basement.

Quaternary-aged glacial deposits form the most recent topographic features and range in thickness from six metres to at least 60 metres, based on current and historical drilling in the western Athabasca Basin. Surficial deposits also include impressive drumlin fields and local sand dune fields. Organic-rich clays are also locally encountered adjacent to sandstone bedrock.

### 7.2 Local Geology

Outcrops of the Taltson-Thelon rocks in Alberta comprise a retrogressed granulite facies terrain, which is interpreted by Lewry and Sibbald (1977) as being similar in geological characteristics to the western Lloyd Domain. Both domains are of Archean age.

The basement rocks (corresponding to the western Lloyd Domain) have been mapped by Alberta provincial government geologists, both north and south of the Maybelle Property area as:

- Banded granite gneisses that show evidence of both an earlier granulite facies metamorphism and a later amphibolite facies overprinting, which are likely to be of pre-Kenoran age;
- High-grade, layered to banded metasediments of probable Archean age, found principally within the granite gneisses;
- A series of Aphebian-aged (Paleoproterozoic) intrusive, massive to foliated amphibolite facies anatectic granitoids, which formed mantled gneiss domes, and which now show several phases of related (Hudsonian?) deformation; and
• Isolated outliers of low-grade metasedimentary and metavolcanic rocks which lie in apparent unconformity, upon the Archean granite gneisses, but which are in an uncertain position relative to Aphebian granitoids. There is no evidence for Aphebian supracrustal rocks in outcrop, but Burwash (1978), in a study of the subsurface extension of the basement rocks beneath the Phanerozoic cover rocks, did recognize metasedimentary rocks and suggested that they are only the keels of infolded Aphebian sediments.

Drilling within the Property area intersected aluminous metasedimentary rocks which are in part graphite-bearing. These are tentatively correlated with Aphebian-aged metasedimentary units of the Peter River gneisses of the Cluff Lake area and/or the Wollaston Domain present in eastern Saskatchewan. Other basement lithologies intersected include charnockitic gneisses and anatexites, both being similar to the Earl River complex at Cluff Lake. Petrographic work by Shi and Annesley (1996) identified orthogneisses, pelitic gneisses, and granitoids and microgranites. These rocks were subject to lower to middle granulite-facies metamorphism, with retrograde metamorphism at amphibolite to greenschist facies. The pelitic gneisses examined were strongly anatectized with intense development of quartzofeldspathic leucosomes.

The Athabasca Group has been subdivided into three main sequences bounded by unconformities (Ramaekers, 2002): the Fair Point sequence (fluvial), the Manitou Falls – Wolverine Point sequence (fluvial) and the Locker Lake – Carswell sequence (fluvial to marine).

The Rea Property area is underlain by the Fair Point Formation with a thickness ranging from 0 to 100 metres. These are interpreted to be fluviatile sheet flood deposits (Ramaekers, 2002). Above this are diagenetically-altered quartz arenites and conglomerates of the Manitou Falls Formation with a total thickness ranging from 0 to 300 metres. The Manitou Falls Formation is overlain by the Lazenby Lake Formation that locally reaches a thickness of 30 metres.

7.3 Mineralization

No significant mineralized zones have been encountered on the property to date.
FIGURE 6: Location of Rea Project within the Athabasca Basin.
FIGURE 7: Location of Rea property, Maybelle River, Patterson Lake, and other U deposits.

FIGURE 8: Residual total magnetic field map; Athabasca Basin, Saskatchewan and Alberta.
FIGURE 9: Geology and Mineral Resources of the Athabasca Basin and Environs, Saskatchewan and Alberta; ERCB/AGS Map 538, scale 1:500 000 (Slimmon and Pana, comp., 2010).
FIGURE 10: Basement geology map in northeastern Alberta (from Pană, 2009; Pana and Olson, 2009).
FIGURE 11: Map of the Athabasca Group in eastern Alberta and western Saskatchewan, adapted from Collier (2005). Note the trace of seven geological X-sections; shown in Figure 13 of this report. A number of the X-sections (e.g. C-C’) show Maybelle River and its variable depth to the unconformity.
FIGURE 12: Geological cross-sections through the western part of the Athabasca Basin, from Collier (2005).
8. DEPOSIT TYPES

Proterozoic unconformity-type uranium deposits host greater than 30% of the world’s known uranium resources. The Athabasca Basin of Saskatchewan, Canada, is the most renowned with its high-grade deposits. The basin currently supplies approximately 15.5% of the world’s uranium for energy. Other notable unconformity-type uranium districts occur in the Thelon Basin (Nunavut, Canada) and the Alligator River District (Northern Territory, Australia). These unconformity-type uranium deposits differ from the Athabasca Basin deposits in that they contain lower grade ore and are entirely basement hosted. The average grade of the top 30 deposits in the Athabasca Basin is ~1.97 wt. % U3O8, four times the average grade of the Australian unconformity-type uranium deposits (Jefferson et al., 2007).

Unconformity-type uranium deposits of the Athabasca Basin are characterized by elongate, pod-shaped uranium mineralization at the unconformity between the Proterozoic fluvial, conglomeratic sedimentary basin and favourable graphitic metasedimentary basement rocks. These sedimentary strata are relatively flat-lying and unmetamorphosed, while the basement rocks often show signs of multiple stages of deformation and associated metamorphism. A clay-rich paleoregolith occurs at the surface of the crystalline basement rocks (Figure 13). The paleoweathering profile commonly consists of a red hematite-rich zone, which grades with depth into a greenish chlorite-rich zone and then finally into fresh rock. Later diagenetic/hydrothermal bleaching is observed often directly below the unconformity within mineralization areas/districts (see Figure 13, empirical geological model from Jefferson et al., 2007). In zones of intense uranium mineralization, the extreme hydrothermal alteration completely overprints the regional paleoweathering profile. The basement lithological units are dominated by Archean granitic gneiss and Paleoproterozoic metasedimentary gneiss. The latter, where originally graphite-rich, is the common basement host of uranium deposits (Annesley et al., 2005).

Two end member models of unconformity associated uranium deposits have been identified; mono-metallic and poly-metallic (Figure 14). Mono-metallic deposits occur dominantly as basement hosted uranium mineralization within fault zones or veins below chloritic and/or silicified Athabasca sediments. The MacArthur River deposit is a typical example of a mono-
metallic uranium deposit. Poly-metallic deposits dominantly straddle the unconformity as sub-horizontal clay bounded lenses below quartz corroded sediments. Poly-metallic deposits include Midwest Lake (Denison/AREVA) and Cigar Lake (Cameco/AREVA). The uranium mineralization of poly-metallic deposits is commonly associated with variable amounts of nickel, cobalt, molybdenum, arsenic, and gold. High-grade uranium ore (> 1.00 wt. % U3O8) in poly-metallic deposits is mantled by a medium to low grade zone (< 1.00 wt. % U3O8). These deposits have mineralized roots extending downwards into major graphitic basement structures and upwards into the sandstone column. Typically poly-metallic deposits are associated with plume-shaped halos of illite-kaolinite-chlorite alteration in the sediments. This surrounds the major ore controlling structures and can extend for several hundred metres above the deposit. Poly-metallic deposits are hosted by sandstone and conglomerate and occur within 25 - 50 meters of the unconformity (Jefferson et al., 2007).

**FIGURE 13:** Empirical geological model of unconformity-type uranium deposits (from Jefferson et al., 2007)
Petrogenetically, these deposits are determined to be hydrothermal in origin (i.e. formed at temperatures < 250°C). They have U-Pb isotopic ages of 1.6 – 1.1 Ga with later younger ages from 0.9 Ga to recent time (i.e. due to later remobilizations). They are observed to occur at 3 locations within the lithostratigraphic column, i.e. above (perched), at (classical U/C), and below (basement-hosted) the Athabasca unconformity within underlying Archean / Paleoproterozoic magmatic/ metamorphic rocks. They are related to structures rooted in the basement; reactivated through time and invariably graphite- and sulfide-bearing. They show strong K-Mg-B alteration: illite-chlorite-dravite/Mg-foitite (MgTourmaline)-hydrothermal quartz (Figure 15). The mineralizing fluids have been determined to be Na-Ca-rich brines (25-35 wt% eq. NaCl). A new model (Figure 16) has been proposed recently for these deposits, and therefore current, as well as new, exploration techniques need to address how to identify the fingerprint(s) of this model; i.e. whether the U deposition and its structural-geochemical architecture is due to brine mixing or gas-brine mixing or brine-mineral interaction? Each system will have its own unique geological-geochemical-geophysical signature and resulting exploration program.
FIGURE 15: Schematic X-section of typical Proterozoic unconformity-type uranium deposit (from Mercadier et al., 2014)

FIGURE 16: A new model for unconformity-type uranium deposits (from Mercadier et al., 2014)
9. EXPLORATION

The following is a summary description of surface exploration programs completed on the Rea property from 2005 up until 2014, by or on behalf of the issuer, Brazil Resources Inc. (Brazilian Gold Corporation formerly Red Dragon Resources Corp.) and the 25% interest holder, AREVA (Uramin Inc.).

9.1 2005 Airborne Geophysical Survey

In late 2005, a high-resolution helicopter-borne electromagnetic and magnetometer Versatile Time Domain Electromagnetic (VTEM) survey (5,542 line-km) was flown to target bedrock conductors (graphitic horizons) and fault zones. This survey is estimated to have penetrated depths of 400 m or more, and included the AREVA claims and the Maybelle River Deposit, which are enclosed by the current Rea Uranium Property. Interpretation resulted in the identification of numerous basement-related magnetic anomalies and EM conductors, with fifteen key areas targeted for further exploration.

9.2 2006 IP survey

Disseminated sulphides, graphite, and clay alteration are spatially and genetically related to uranium deposits in the basin, and commonly result in chargeability highs and resistivity lows, which can be mapped by the IP survey. Consequently in 2006, Aurora Geosciences Ltd. were contracted to carry out an Induced Polarization (IP)/DC Resistivity survey (54.8 km over several grids) on the Rae Property; specifically over the 2005 airborne EM targets to help better focus drill targets along these extensive conductors. The Aurora crew was equipped with one IP Receiver (IRIS Elrec 6) and one IP Transmitter (Huntec Mk II 7.5 kW), and other supporting equipment to carry out the survey. Gridding was completed using individual reconnaissance and brushed outlines sited with a NDGPS receiver. The IP survey was conducted according to the following specifications: IP Array: Pole-dipole array (Direction of survey is indicated on each pseudo-section); Dipolc spacing: 100 meters; Separations: Six dipoles were read from n = 1 – 6; Tx: Time domain with a 50% duty cycle, reversing polarity, 0.125 Hz; Parameters read: M - total chargeability. Stacks, repeats: At least 15 stacks were taken at each station. Stations that were noisy had extra readings taken, so to ensure repeatability. The processing of all IP data comprised daily dumps and import into a Geosoft Montaj database for further analysis and
presentation. Quality control consisted of examination of each decay curve and comparison of repeat readings. Readings with standard deviations greater than 5 ms, irregular decay curves, or which did not repeat within 10% were rejected. The final data were then plotted as pseudosections of apparent resistivity and total chargeability.

This work generated a significant number of drill targets. Also significant, the IP data can be used to estimate the basement/unconformity (U/C) contact and to recognize possible structures.

9.3 2008 FLTEM survey

A fixed loop time-domain electromagnetic (FLTEM) survey (41.7 line-km on three grids: 05, 12 and 15) was carried out in 2008 to test basement conductors that were outlined in the 2005 airborne VTEM survey. The grid lines were surveyed with two opposing transmitter loops located at the ends of the survey lines resulting in 46 line kilometres covered with the FLTEM survey. Opposing fixed loop surveys and model derived interpretations were utilized to improve the accuracy of the interpreted conductors. However, within complex geological situations, the fixed loop geometries and subsequent interpretations retain some ambiguity.

The best results were obtained on Grid 12 over part of the Net Lake Trend. In general, the results of the 2008 fixed loop EM survey correlate well with the results of the 2005 VTEM survey. However, it was recommended that additional information would be required before undertaking drill targeting exercises. These recommendations included: 1) Carrying out a detail structural - geological interpretation based upon the magnetic and gravity airborne data. 2) Reviewing the results of the VTEM survey incorporating the new geological – structural interpretation of the magnetic and gravity data and other available information such as basement lithologies from drilling, to identify priority exploration areas, 3) Conducting an IP/DC resistivity survey on Grid 12 to determine the presence of alteration zones and to improve the location of the basement conductors for drill targets, and 4) Carrying out Moving Loop TEM surveys in conjunction with IP/DC resistivity surveys in previously outlined priority exploration areas so to generate the best drill targets.

9.4 2009 Airborne Full Tensor Gravity Gradiometry (FTG) Survey
In 2009, ARKeX Ltd. was contracted to carry out an airborne Full Tensor Gravity Gradiometry (FTG) survey over the Rea Property surrounding the Maybelle trend. The survey acquired Full Tensor Gravity Gradiometry (FTG), magnetic, Lidar, and video data. The survey block is rectangular in shape, covering an area of 50 km in the north-south direction by 23 km in the east-west direction. The survey was initiated on August 29, 2009, and completed by September 21, 2009. A total of 4,352 line-km were flown (including tie-lines), comprising 3800 km of north-south oriented survey lines (300 m spacing) and 552 km of east-west oriented tie lines (2,000 m spacing). Ground elevations vary from 217 m ASL to 403 m ASL with a mean elevation of 307 meters ASL. The survey was flown to follow a 3D drape at a height of 185 m above the drape. The height above ground was set at this height to produce maximum Lidar coverage from minimal line km. A more detailed account, including QA/QC procedures, can be found in the Data Acquisition Report, Appendix I of Carroll and Morales (2012). The processing of the gravity data, including post mission correction, levelling, calculation of tensor components and terrain correction, was performed by ARKeK. In 2010, ARKeX Ltd was contracted by AREVA Resources Canada Inc. to perform the interpretation/modelling of the gravity data acquired during the 2009 airborne survey. The interpretation included cluster analysis of the various available geophysical datasets. Also, edge detection algorithms were applied on gradient data to obtain indications of fault orientations.

Interpretation of all available datasets, including these 4 surveys, resulted in: 1) Better understanding of the regional basement geology and structures, 2) Twenty-four target areas for follow-up exploration work, and 3) Confirmation that the basement topography currently used is a reasonably close approximation to the actual basement surface. Recommendations include follow-up of anomalous zones/target areas with further ground geophysical surveys where required, as well as, compilation with existing geochemical/geophysical surveys with the goal of prioritizing new areas for drilling.
10. Drilling

The following is a description of drilling programs completed on the Rea property from 1974 until the present, including from 2005 up until 2014, by or on behalf of the issuer, Brazil Resources Inc. or its predecessor. A map of drill holes on the property is found in Figure 17 and a list of drill holes with their pertinent collar information is found in Table 2. The summary of drilling by Eldorado Nuclear Ltd. and Uranerz Exploration and Mining Limited is based on historical information and the Authors have not been able to verify this information.

A summary of the three main phases of drilling that took place on the Rea Property is as follows:

10.1 Eldorado Nuclear Ltd. (Eldorado): 1974 to 1979

- Regional exploration program (1974-1977) was carried out, including diamond drilling in 1976-1977. Eighteen holes were drilled, including 4 on the present-day Rea property (BRI permits 9304020433, 9304020434 and 9304020437 (Table 2). Many of these holes did not reach the unconformity due to technical difficulties.

10.2 Uranerz Exploration and Mining Limited (Uranerz): 1984 to 1998

- From 1984 until 1998, Uranerz drilled over 80 drill holes in the Maybelle River and surrounding area, including 22 drill holes on the present-day BRI Rea Property, totaling 5,722.6 meters.
- The 1986 drill program (18 holes) along the Net Lake trend located on BRI's permits 9304020434, 9304020437 and 9304020438 intersected several zones of geochemically anomalous uranium, as well as other pathfinder metals such as V, Ni, Co, and As.
- Drill holes along the Net Lake trend have intersected significant geochemical anomalies, including 43 ppm U in drill hole MR01; 27 ppm U in drill hole MR06; 48 ppm U in drill hole MR08; 766 ppm Ni, 328 ppm Zn, and 689 ppm V in drill hole MR08, and up to 672 ppm Ni and 601 ppm V in drill hole MR13, which also yielded up to 17 ppm U.
- Drill hole MR69 located on BRI's permit 9304020444 yielded several minor radiometric anomalies ranging from 100 to 400 cps, with values of up to 87 ppm total U over 1 meter, as well as up to 184 ppm Ni.
• Drill holes MR65 and MR66, located east of the Maybelle EM conductor trend and located on BRI's permit 9304020436, intersected 54 and 82 ppm U across 1 meter, respectively.

10.3 Brazil Resources Inc. (Brazilian Gold Corporation formerly Red Dragon Resources Corp.): 2005 to 2014

• The 2007 drill program comprised 8 holes of NQ core totaling 1,908 meters (see section 10.4 below for details of drill core methods, including logging, etc. for this program).
• This drill program intersected alteration and anomalous concentrations of uranium in several holes.
• Drill holes R040107, 070107, 070207, 110107, and 120107 successfully intersected the unconformity separating the overlying Fair Point Formation from the deeper basement granite (including some pegmatitic intervals of unknown age) and/or gneisses.
• The thickness of the regolith developed at the unconformity was quite variable between 12m (R II 0 I07) to 34 m (R0701 07) thick. The intersected regolith comprised variably intensely chlorite-, illite-, and hematite-altered boulders of basement granitoid +/- sandstone.
• None of the drill holes intersected economic concentrations of uranium mineralization and, as well, none intersected graphitic units or graphitic faults.
• Drill hole R110107 intersected 2 m (300-302 m) grading 122.2 ppm Ni, 2 ppm Pb and 24 ppm U in basement rocks just below the unconformity circa 287.9 m east of the Maybelle trend.
• Drill hole R130107 intersected 9.1 m (159.5-168.6 m) grading 4.8 ppm Ni, 15.4 ppm Pb and 18.8 ppm U including 1 m (161.5-162.5 m) grading 3.8 ppm Ni, 20.3 ppm Pb and 55 ppm U in sedimentary rocks just above the unconformity north of the Net Lake trend.
• Interpretation of all available datasets by BRI has resulted in:
  o Better understanding of the regional basement geology and structures,
  o Identification of 24 target areas for follow-up exploration work, and
  o Recommended follow-up of these anomalous areas with further ground geophysical surveys where required, as well as, additional compilation with
existing geochemical/geophysical surveys, with the goal of prioritizing areas for drilling.

**FIGURE 17**: Location map of drill holes on the Rea Property
### TABLE 2. REA PROPERTY DIAMOND DRILL HOLES

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Note: The operator of the 508-series drill holes was Eldorado Nuclear Ltd. (Eldorado), the MR-series and MT-series drill holes was Uranerz Exploration and Mining Limited (Uranerz), and the R-series drill holes was Brazil Resources Inc. (BRI).

10.4 Drill Core Methods for the 2007 Drilling Program

All holes were drilled vertically, using a Boyles 37 drill, operated by contractors Cyr Diamond Drilling of Winnipeg. All holes drilled on the Rea Property recovered NQ drill core size for their entire depth. Drill holes were generally cased to a minimum depth of 20 meters. The drill program was initiated on February 25, 2007 and final demob finished on April 18, 2007.
10.4.1 Drill Hole Spotting

All drill collar locations were spotted using various conventional handheld GPS units. All drill hole locations were planned and recorded using the NAD 83 (UTM Zone 12) coordinate system. Drill holes were named as follows R=Rea property, Target Number from 2005 airborne geophysical survey, hole number and year; example R120107 is R=Rea property, Target=12, Hole Number=1 and Year=2007.

10.4.2 Drill Hole Orientation Surveys

All drill holes were vertical. No down hole surveys were completed.

10.4.3 Geological Logging

Comprehensive logging sheets were implemented in order to record drill collar information, written rock descriptions, hand held scintillometer readings, numeric alteration intensity, mineral percentages, structural measurements, and sample information. Drill core was logged by a geologist on site.

10.4.4 Geotechnical Logging

Geotechnical information was recorded as part of the comprehensive logging sheet, including core recovery rate, fractures per meter, and the angle of fractures to the core axis. Core recoveries typically ranged from 95 to 100%, and rarely below 90%.

10.4.5 Geophysical Logging

Drill core radioactivity was checked by a hand-held total count gamma ray scintillometer, measuring incoming radiation with readings up to a maximum of 9,999 cps.
10.4.6 Drill Core Photography

Core photos were taken after the geological logging, geotechnical logging, and sample mark-up were completed. Details of the core included in each photo (drill hole number, from to depths, and box numbers) were recorded. The core was made wet, so to facilitate subtle geological features and colors to be more easily discerned/observed.

10.4.7 Drill Core Storage

Once core photos and sample splitting were completed, metal tags inscribed with the drill hole number, box number and from/to meter intervals were stapled on the front of each core box. Core from each drill hole was cross stacked on level ground at the camp.

10.4.8 Sampling for Geochemistry

Core to be geochemically analyzed was marked; half split by manual splitter, bagged in numbered plastic sample bags, and sealed using a zap straps (plastic cable). Samples were placed into large rice bags and sealed with zap straps, for transport to the laboratory via charter flight and commercial freight carrier.

10.4.9 Selective Sampling

Selective samples were taken in the basement rocks where interesting features exist with respect to lithology, structures or alteration. These samples were either whole spot samples or split core. In addition to the selective sampling of zones of interest described above, every 5th meter was half split along a 10cm interval. These samples were bagged, sealed and transported in the same way for whole-rock geochemical analyses. The selective sampling did not identify any zones of economic mineralization in the basement rocks. Drilling, sampling or recovery factors did not materially impact the accuracy and reliability of the selective sampling.
11. SAMPLE PREPARATION, ANALYSES AND SECURITY

The following is a description of sample preparation, analysis, and security for the Rea property.

11.1 Sample Preparation

The field program is supervised on-site by an experienced geologist with the role of Project Manager. The Project Manager oversees all quality control aspects from logging, to sampling to shipment of the samples. Drill core sampled was as discussed in the previous section 10. All drill core samples were put into plastic bags, sealed, and then transported to the ALS Laboratory Group; an ISO 9001:2000 and ISO 17025 certified laboratory, in Vancouver, Canada. Samples were prepared for analysis by the ALS Laboratory Group upon arrival. No special security measures are enforced during the transport of core samples apart from those set out by Transport Canada regarding the transport of dangerous goods.

11.2 Drill Core Geochemistry Analysis

Drill core samples for whole-rock geochemistry were analyzed by the ALS Laboratory Group, Vancouver, Canada; an ISO 9001:2000 and ISO 17025 certified laboratory. The ALS Laboratory Group is independent of BRI.

Samples arriving at the laboratory in Vancouver are sorted, dried with fine crushing of the entire sample to better than 70% passing 2 millimetres. The sample is then reduced to a 1 kilogram charge by repeated passes through a riffle splitter and then pulverized to 80% passing 75 microns. The sample is then dissolved using a four acid (HF, HNO3, HClO4, and HCL) "near-total" digestion followed by inductively coupled plasma with mass spectroscopy finish for 48 elements. Elements assayed include U, Ph, Co, Cu, Ni, As, and B.

11.3 QA/QC of Geochemistry and Uranium Assay Samples
BRI (Brazilian Gold Corporation formerly Red Dragon Resources Corp.) inserted a few Quality Control Samples (standards and duplicates), however the frequency of these samples was insufficient to adequately assess the quality of the analytical data. The authors of this report therefore, cannot verify the results of the geochemistry/assay results from the 2007 drill program.

It is in the opinion of the Authors that Industry Best Practices including Quality Assurance and Quality Control Programs need to be implemented on future drilling programs on the Rea Property, including the program recommended in section 18 of this report. The Quality Assurance and Quality Control programs will include the insertion of control samples (standards, duplicates and blanks) within the sampling stream and the monitoring of the results of this program so that the quality of the assay database can be evaluated on an ongoing basis and thereby assuring the quality of the data.
12. DATA VERIFICATION

All geological data has been reviewed by the Authors and is believe to be representative of the overall exploration potential of the property to host uranium mineralization. However, due to the historic nature of prior exploration programs and results, and the lack of full quality assurance and control procedures, the authors of this technical report could not independently verify historic exploration results. No check sampling was undertaken as part of this Technical Report as no economic concentrations of uranium have been identified on the Rea Property at this time.

In reviewing the historic data of the Rea Property, the authors could verify that the drilling and ground geophysics have been performed over a number of years across the entire permit package of BRI. On the basis of the property visit by the 2nd author and after a review of the existing current and historic data, the authors have no reason to believe the data that is the subject of this report is unreliable. The authors believe that the data reviewed and interpreted herein is of acceptable quality and that the data was collected using current industry practices. As an overall comment, there is a lack of rigorous quality assurance and quality control (QA/QC) data for the historic drilling, and it is strongly recommended that all future drilling, sampling, and analytical methodologies adhere to rigorous QA/QC procedures in order to provide the necessary confidence levels in data that will be required during future exploration programs. For future exploration drilling programs, systematic QA-QC samples (standards, duplicates and blanks) should be inserted in the sample stream. Results from the QC samples need to be monitored and reviewed on an ongoing basis and any batches falling outside the acceptable limits should be sent for re-assaying.

For their airborne geophysical surveys, BRI (Brazilian Gold Corporation formerly Red Dragon Resources Corp.) retained Geophysical Consultant Bob Lo, P. Eng. to provide geophysical guidance including QA/QC for the data acquisition for the geophysical program. The QA/QC for the airborne geophysical data was deemed acceptable to industry standards. For the 2008 and 2009 ground and airborne geophysical surveys, AREVA Canada Resources Inc. geologists and geophysicists managed the program, which included geophysical guidance, data interpretation, and assessment report writing, including the QA/QC checking of the geophysical data. The
authors of this Technical Report are of the opinion that the QA/QC for this geophysical data was deemed to be acceptable according to industry standards.

13. **MINERAL PROCESSING AND METALLURGICAL TESTING**

No mineral processing or metallurgical testing studies have been undertaken on the Rea property, given the property is at an early stage of exploration, and therefore this section is not applicable at this point in time.

14. **MINERAL RESOURCE ESTIMATES**

There are no historical or NI43-101 compliant mineral resource estimates on the Rea property, given the property is at an early stage of exploration, and therefore this section is not applicable at this point in time.

15. **ADJACENT PROPERTIES**

Declan Resources Ltd. has land holdings surrounding the Rea Uranium Property. Other companies actively exploring the Alberta portion of the Athabasca Basin include the AREVA consortium, Fission 3.0, and PANARC Resources.

The permits comprising the Rea Property completely surround mineral leases of AREVA that host the Maybelle uranium deposit (Wheatley and Cutts, 2013) that was discovered by Uranerz in 1988. Drill intersections have returned up to 17% $\text{U}_3\text{O}_8$ across 2 m core length in drill hole MR-34 and 21% $\text{U}_3\text{O}_8$ across 5 m core length in drill hole MR-39 (see Orr, 1989). AREVA continues to actively explore their Maybelle River permits. The information as reported here on adjacent properties has not been verified by the authors of this report and although they believe this information to be correct (Wheatley and Cutts, 2014), the reader should not rely solely on this information. The mineralization outlined on Areva's Maybelle deposit is not necessarily indicative of mineralization on the Rea property.

The following figures and photographs (Figures 18 – 22) show some of the geological features, structures, and rock types of the Dragon Lake showing, taken from the recently published Wheatley and Cutts, 2013 paper. The Property straddles a major north-west to north-south
trending shear zone within the under-lying basement lithologies. This shear zone, named the Maybelle River Shear Zone (MRSZ), is identified by a narrow subvertical wedge of pelitic to graphitic pelitic gneisses and mylonitic pegmatoids. The mineralization of the Dragon Lake Zone consists of uraninite, coffinite and massive to disseminated pitchblende within a steep, narrow 160° trending structure seen primarily within the Fair Point Formation. This structure originates in the basement, and cuts the north-south trending MRSZ at a low angle. The mineralization is present over a strike length of 110 meters, varying in height from 3.5 meters below to 40 meters above the unconformity. The mineralized width is narrow, ranging from 1 meter to 5 meters, with two closely spaced parallel zones in the north end of the prospect.

Strong alteration surrounding the mineralization is limited to a halo about 20m in extent within the Fair Point Formation, and surrounds the trace of the 160° structure where it overlies the MRSZ. The alteration is characterized by a dark green zone of Fe-chlorite, illite and an increase in the total clay content from 12 to 25%. Uranium mineralization is always found within this alteration zone. The alteration halo in the overlying Manitou Falls Formation is broader, weaker and is identified by a steep north-south fracture zone (30 to 80 meters wide) with druzy quartz on fracture surfaces, local quartz flooding and a central zone of quartz dissolution and collapse breccias. Uranium, boron and vanadium are slightly elevated within this halo, which is not always centered over the N160° structure.
FIGURE 18: Geology of the Dragon Lake zone: (a) cross section and (b) plan view (from Wheatley and Cutts, 2013).

FIGURE 19: Representative textures and alteration in drill core: (a) Distinctive texture of the mylonitic microgranite. All drill cores in these pictures are NQ size (4.75cm diameter). (b) Grey-green Fe-illite chloritic alteration of the Fair Point Fm. Numbers written on the boxes denote counts per second using the SPP-2 (from Wheatley and Cutts, 2013).
FIGURE 20: Breccias in the Manitou Fall Fm. (a) Brittle fractures and vugs filled with tar and druzy quartz coatings in the Manitou Falls Formation. (b) Corroded and rounded sandstone clasts in silica matrix in the Manitou Falls Formation. Strong alteration always surrounds the uranium mineralization and is limited to a halo (from Wheatley and Cutts, 2013).

FIGURE 21: Brecciation of the Manitou Falls Formation above the Dragon Lake mineralized
zone (from Wheatley and Cutts, 2013).

**FIGURE 22:** Dragon Lake uranium mineralization: (a) High-grade uranium in drill hole MR-99 (54.5% U) with silicified Fe-illite/chlorite zone above. Numbers on the boxes denote counts per second using the SPP-2. The sample above the 54.5% U returned 110ppm U. (b) Photomicrograph of botryoidal pitchblende with massive to cubic skudderudite and fracture-filling galena. Thin section is from sample shown in (a) - (from Wheatley and Cutts, 2013).

There is no other information on properties adjacent to the Property necessary to make this technical report more understandable and not misleading.

**16. OTHER RELEVANT DATA AND INFORMATION**

All relevant data and information regarding the Property is included in other sections of this Technical Report. The Maybelle River Wildland Provincial Park (MRWPP) and the Athabasca Dunes Ecological Reserve (ADER) are located west (i.e. outside) of the Rea Property. The MRWPP and ADER boundaries are shown in Figure 23. The western part of the Rea Property (permits 93040433, 434, 438, 441, 443, 444 and 437) are partially or completely covered by the Richardson Recreation and Tourism Area (Figure 23). A Recreation and Tourism designation does not prevent the exploration for or the exploitation of resources found on these permits/leases.
FIGURE 23: Location Map of the Maybelle River Wildland Provincial Park
17. **INTERPRETATION AND CONCLUSIONS**

The following information describes the interpretation and conclusions for the exploration that has been carried out on the property to date. To the knowledge of the two authors, there are no significant risks and uncertainties that could reasonably be expected to affect the reliability or confidence in the exploration information. To our knowledge, there are no reasonably foreseeable risks and uncertainties to the projects economic viability or continued viability.

BRI’s Rea Property consists of 12 contiguous mineral claim permits totaling 88,464 Ha. These permits are strategically located along the western margin of the Proterozoic age Athabasca Basin, a current and historical hotspot for uranium exploration. Seven uranium mines exist in the Saskatchewan portion of the Basin, accounting for approximately 15.5% of the world’s supply of uranium. The vast majority of uranium discoveries to date are located in the Saskatchewan portion of the Athabasca Basin with the exception of the Maybelle River deposit in Alberta, which was discovered by a Uranerz drilling program in 1988 (Orr, 1989). The Maybelle deposit is surrounded by BRI’s Rea Property. AREVA continues to explore the Maybelle deposit and drilling in 2002 confirmed relatively shallow uranium mineralization with grades of up 40% U₃O₈ over 0.5m.

Recent studies have shown clearly the mineralogical and geochemical similarities between uranium mineralization in the Maybelle River area to that of deposits in the Saskatchewan portion of the Athabasca Basin (Kupsch, 2004; Kupsch and Catuneanu, 2007; Wheatley and Cutts, 2013). Proximity to the Maybelle River uranium mineralization adds value to the Rea Property, since the highly graphitic structure/EM conductor that hosts the Maybelle River uranium deposit extends both northwards and southwards onto the Rea Property for a cumulative distance of 15 km, and is considered highly prospective for additional uranium mineralization; both along strike and deeper into the basement complex. Also, numerous parallel to sub-parallel structures, occurring immediately east and west (e.g. at Net Lake), may be potential hosts for uranium mineralization. These structures/EM conductors have seen only limited exploration and/or drilling to date.
Other EM signatures over the rest of the Rea Property area also show similarities to those of the Maybelle River (Dragon Lake) deposit. A total of 1,319 line km of EM anomalies have been identified within the Rea Property permits, a number of which are associated with linear arrays similar to those underlying the Maybelle River property and likely indicative of graphitic mylonitic basement rocks/zones underlying Athabasca Basin rocks. Lo (2006) identified fifteen high priority target areas for future exploration, three of which are ideal for immediate follow-up uranium exploration.

The airborne geophysical surveys, the ground surveys, diamond drilling programs, and other previous work performed within the Rea Property area by Eldorado and Uranerz constitutes a very large sample and geophysical dataset that has been systematically compiled. This database is highly strategic for continued exploration. The potential for the Rea Property area to contain unconformity-type uranium occurrences is considered by the authors of this report to be very good to excellent, based upon:

- The results of the airborne geophysical surveys,
- The results of the ground surveys,
- The results of limited drilling to date,
- Favourable bedrock geology, including the presence of graphitic mylonite zones and brittle fault zones within the basement rocks,
- Highly anomalous alteration and tectonic zones intersected in drill core,
- Less than 200-250 meters of cover sequence on the west side of the property to >350 meters east of the MRSZ, and from 340 to >450 meters in the northern part of the property, and most importantly
- Proximity to a high-grade uranium deposit (i.e. the Maybelle (Dragon Lake) deposit within the Maybelle River Property).
18. RECOMMENDATIONS

The merits of the Rea Property are, in the opinion of the authors, highly sufficient to justify significant exploration expenditures (i.e. drilling) on the property. The work recommended for the Rea Property includes more select ground geophysics including a moving loop electromagnetic (EM) survey, and possibly a complimentary ground gravity survey to fine tune the picking of priority drill targets. Within the next year, a drill program of up to 2,600 meters will be conducted to test alteration and breccia zones identified in historic drill holes along the MRSZ north of the Maybelle Property. The estimated cost for the proposed exploration program on the BRI property is ~$1,200,000 including $100,000 for ground geophysical surveys (Table 3).

18.1 Proposed 2014 Exploration Program

Two target areas are proposed for the exploration program; the North Zone and the West Zone (see Figures 26 and 27). The North Zone would involve diamond drilling only, while the West Zone would include a limited moving loop EM survey followed by diamond drilling if warranted.

Table 3: Proposed 2014 Exploration Budget

The budget for the proposed 2014 exploration program may be broken down as follows:

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+ 10% management fee  $109,091

TOTAL  $1,200,000

The North Zone: This area lies immediately north of the AREVA boundary in an area where 5 drill holes have been completed by Uranerz in the 90’s (Figures 17 and 24). There are two EM conductors (i.e. graphitic shear zones) and the distances they extend north from AREVA’s northern property boundary onto the Rea Property are approximately 10 kms, (see Figure 17). The current strike length that the Uranerz holes tested to the north is about 3 km. The separation of the fences completed by Uranerz in the north is about 2 kms, as shown on Figure 17.

Several of the drilled holes returned strong brecciation within the Manitou Falls Formation and the lower Fair Point Formation similar in style to that found over the Maybelle (Dragon Lake) mineralized zone. These holes have not been properly followed up since the Maybelle (Dragon Lake) zone was drilled off in 2002 and 2003, which increased substantially the understanding of this mineralization. The depth to basement varies from 340m to 420m, which suggests offsets in the unconformity. Geochemistry shows that two of the historical holes have greater than 61ppm U in drill core. The main Maybelle River Shear Zone that runs nearly north-south in this area decreases significantly in conductive strength (EM) north of the AREVA claim boundary. This may be a concern for economic potential, but the tectonics seen in the existing holes suggests that there has been significant movement of the structure (i.e. reactivation) since deposition of the Athabasca sandstone. Four to six drill holes for approximately 2,600 metres are recommended for this target area.

The West Zone: This area lies about 1.5km almost due west of the Dragon Lake mineralized zone. It consists of an airborne EM conductor that has not yet been drilled. Its proximity to the Maybelle (Dragon Lake) deposit and parallel conductor plus easy access gives it a priority rating for a limited budget exploration program. Depths to the unconformity should be in the 200m range. An EM survey is recommended to be completed first, possibly while the drill is working on the North Zone, to better define the location of the conductor.
FIGURE 24: Proposed drilling targets for 2014 drilling program, based upon historical geochemical results, VTEM anomalies, and interpreted geology.
FIGURE 25: Location of proposed West Zone drill target area on Dragon Lake satellite image.

In conclusion, the authors have reviewed the proposed North Zone and West Zone programs (Table 3) for further work on the Property and, in light of the technical observations made in this report, support the concepts as outlined by BRI. Given the prospective nature of the property, it is the opinion of the authors that the Property merits further exploration. Also that, the proposed plans by BRI for further work are properly conceived and justified. The authors recommend that BRI conducts the exploration as proposed, subject to funding difficulties and any other matters which may cause the proposed exploration program to be altered in the normal course of its business activities or alterations which may affect the program as a result of exploration activities themselves.
19. REFERENCES


Lorilleux, G. (1997): Lithogeochimie des formations metamorphiques et plutoniques encaissant les gisements d'uranium de type discordance (Example dans le basin Athabasca Saskatchewan Canada). Universite Henri Poincare, Nancy 1. CREGU.


20. CERTIFICATE OF QUALIFIED PERSON (QP) – Irvine R. Annesley, Ph.D., P.Geo.

I, Irvine R. Annesley, P.Geo., do hereby certify that:

1. I am currently an Independent Consulting Geologist working from home at 2222 York Ave., Saskatoon, SK, S7J 1J1, Canada.
2. I am also an Adjunct Professor at the Department of Geological Sciences, University of Saskatchewan, 114 Science Place, Saskatoon, SK, S7N 5E2, Canada, since 2003.
3. I graduated with a B.Sc. in Geology from Concordia University in Montreal, Quebec in 1978, a M.Sc. in Geology from the University of Windsor in Windsor, Ontario in 1981, and a Ph.D. in Geology from the University of Ottawa in Ottawa, Canada in 1990.
4. I have worked as a geologist for more than 35 years since my graduation from Concordia University and have been involved in all aspects of mineral exploration and mineral resource estimations for metallic and industrial mineral projects and deposits in North America.
5. I am and have been registered as a Professional Geoscientist with the Association of Professional Engineers and Geoscientists of Saskatchewan (APEGs) for >15 years.
6. I have read the definition of “Qualified Person” set out in National Instrument 43-101 (“NI 43-101”) and I certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101), and past relevant work experience, I fulfill the requirements to be a “Qualified Person” for the purposes of NI 43-101.
7. As senior author, Irvine R. Annesley, I claim responsibility for this Technical Report. I contributed to the preparation of all sections of “National Instrument 43-101 Technical Report on the Rea Property, Northeastern Alberta, Canada”. The Technical Report is effectively dated September 12, 2014. I was a Senior Research Geologist/Manager with the Saskatchewan Research Council for 19 years and Director of Exploration with JNR Resources Inc. for 6 years and 7 months, and as such, I am familiar with the western Athabasca Basin and its uranium potential. While I have reviewed drill cores and thin sections from the general Rea Property area, in preparing petrographic reports for Uranerz in Saskatoon, Saskatchewan, I have not had specific prior involvement with the Property. I have not visited the Property, and I have relied on the property visit by Roy Eccles, the second author (QP).
8. To the best of my knowledge, information and belief, as at September 12, 2014, the Technical Report contains all relevant scientific and technical information that is required to be disclosed, to make the Technical Report not misleading.
9. I am independent of the issuer applying all of the tests in section 1.4 of NI 43-101.
10. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority, and any publication by them for regulatory purposes, including electronic publication in the public company files or their websites.

Signed and dated this 12th day of September, 2014
Saskatoon, Saskatchewan, Canada

Irvine R. Annesley, Ph.D., P.Geo.

I, D. Roy Eccles, P.Geol., do here by certify that:

1. I am currently Senior Consulting Geologist and Operations Manager with APEX Geoscience Ltd., Suite 200, 9797 – 45th Avenue, Edmonton, Alberta T6E 5V8
2. I graduated with a B.Sc. in Geology from the University of Manitoba in Winnipeg, Manitoba in 1986 and with a M.Sc. in Geology from the University of Alberta in Edmonton, Alberta in 2004.
3. I am and have been registered as a Professional Geologist with the Association of Professional Engineers, Geologists and Geophysicists of Alberta since 2003.
4. I have worked as a geologist for more than 25 years since my graduation from university and have been involved in all aspects of mineral exploration and mineral resource estimations for metallic and industrial mineral projects and deposits in North America.
5. I have read the definition of “Qualified Person” set out in National Instrument 43-101 (“NI 43-101”) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “Qualified Person” for the purposes of NI 43-101.
6. Under the guidance of senior author Irvine Annesley, who claims responsibility for this Technical Report, I contributed to the preparation of “National Instrument 43-101 Technical Report on the Rea Property, Northeastern Alberta, Canada”. The Technical Report is effectively dated September 12, 2014. I was a Senior Geologist with the Alberta Geological Survey for 21 years, and as such, am familiar with the western Athabasca Basin and its uranium potential. While I have reviewed drill cores from the general Rea Property area, which are archived by the Alberta Geological Survey’s at its Mineral Core Research Facility in Edmonton, Alberta, I have not had specific prior involvement with the Property. I visited the Property as a Qualified Person on July 8, 2014.
7. To the best of my knowledge, information and belief, as at September 12, 2014, the Technical Report contains all relevant scientific and technical information that is required to be disclosed, to make the Technical Report not misleading.
8. I am independent of the issuer applying all of the tests in section 1.4 of NI 43-101.
9. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
10. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files or their websites.

Signed and dated this September 12, 2014
Edmonton, Alberta, Canada

D. Roy Eccles, M.Sc., P.Geol.