

TECHNICAL REPORT

ON THE

**RESOURCE ESTIMATE ON THE
WAY LAKE URANIUM PROJECT,
FRASER LAKES ZONE B**

Located in the
WOLLASTON GROUP, EAST of the ATHABASCA BASIN, NORTHERN SASKATCHEWAN

NTS MAP SHEETS: 74A/14, 74A/15, 74H/01, 74H/02, 74H/03, 74H/07 & 74H/08

for

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1 SUMMARY

The Way Lake Uranium Project is located in northern Saskatchewan, Canada, and is the site of an active uranium exploration project by JNR Resources Inc. (“JNR”). The project is 100% owned by JNR and is targeting low-grade / high-tonnage granitic intrusive style U-Th-REE type deposits.

The Way Lake Uranium Project is comprised of 19 contiguous claims covering an area of 80,925.0 hectares. The property is elongated in a northeast direction with a northeast-southwest length of 60 km and an average northwest-southeast width of 15 km. All claims are in good standing at the time of writing. The Way Lake Project is approximately 55 km east of Key Lake and 580 km north of Saskatoon, Saskatchewan. The Way Lake project is accessed by float or ski equipped aircraft or by winter road from Key Lake along the historic Key Lake winter road which passes through the southern edge of the property.

The project area is characterized by gently rolling relief covered by thinly wooded boreal forest. Numerous lakes and ponds generally show a north-easterly elongation imparted by the last glaciation. Vegetation is predominantly thinly distributed black spruce, alder and jack pine with lesser birch, while ground cover comprises mostly reindeer lichen and Labrador tea.

The Way Lake project area lies in a sub-arctic climate region. Winters are generally extremely cold and dry with temperatures regularly dropping below -30°C. The cold temperatures allow for a sufficient ice thickness to support a drill rig generally from mid-January to mid-April. Temperatures in the summer can vary widely with yearly maxima of around 30°C commonly recorded in late July.

Companies from Points North and La Ronge provide general mechanical services, equipment storage and camp supplies. General drill program supplies and equipment for the project are provided by mining and exploration expediting services based out of La Ronge and Saskatoon, Saskatchewan. Core camp helpers are sourced from the local communities of Stanley Mission and Wollaston Lake.

JNR has been exploring the Way Lake property since staking the initial three claims in 2004, targeting a low-grade / high-tonnage granitic intrusion hosted U-Th-REE deposit. Exploration undertaken on the Way Lake property has mostly involved airborne and ground geophysics, multi-phase diamond drill campaigns, detailed geochemical sampling of drill core, and ground based prospecting and geochemical sampling. Over 20,000 m of core has been drilled on the property over five winter drill programs from 2007 to 2011. With each subsequent drill program an increasingly detailed understanding of the property geology has developed.

The geologic setting for Fraser Lakes Zone B is within a highly tectonized contact between Archean granitoids and the overlying basal Wollaston Group pelitic metasediments. This tectonized contact, or shear zone, is folded around Archean granitic domes and is thickest within the NE-plunging antiformal nose. There are multiple generations of granitic pegmatites with the mineralized pegmatites usually being syntectonic, and older, and non-mineralized pegmatites being late-tectonic, and younger. U-Pb age dating of magmatic uraninite has returned ages of 1850-1780 Ma for the mineralized pegmatites. The U-Th-REE mineralized granitic pegmatites

that define Zone B occur within an antiformal fold nose that is cut by an east-west dextral ductile-brittle cross-structure and younger NNW trending and NNE trending brittle faults. The mineralized pegmatites have been further sub-divided based on mineralogical studies. These studies defined two main groups of granitic pegmatites/leucogranites based on their uranium-thorium (U-Th) versus thorium-rare earth element oxide (Th-REO) contents and their relative position within the antiformal fold nose. The term Group A intrusives refers to the syn- to late-tectonic pegmatites that intrude the northwest limb of the northeast-plunging antiformal fold. The term Group B intrusives refers to the syn- to late-tectonic thorium-REE rich pegmatites that intrude the central portion of the northeast plunging antiformal fold nose.

The Fraser Lakes Zone B was discovered during the summer 2008 prospecting and drilling (WYL-08-524, 525 and 526). These three holes did not test the optimum target of the graphitic pelitic gneiss and granitic pegmatite contact due to summer ground conditions. However, all three holes did intersect uranium mineralized granitic pegmatite. The best results were from WYL-08-525 which intersected several uranium intervals, with the best zone returning 0.081 wt% U_3O_8 over 12.0 meters from 77.50 to 89.50 meters depth down the drill hole. The Fraser Lakes Zone B deposit is currently defined by 32 NQ drill holes totaling 5,694.0 meters. Zone B mineralization has a strike length of 1400 meters, trends roughly 240° and dips approximately 30° to the north. In cross-section, the pegmatite hosted mineralization is tabular in shape. The mineralization ranges from 2 to 20 meters in width over a vertical thickness of approximately 175 meters.

The Fraser Lakes Zone B U-Th-REE mineralization is associated with a series of ca. 1800 Ma sub-parallel granitic biotite-quartz-feldspar pegmatite dykes entrained within the tectonic decollement between the Paleoproterozoic Wollaston Group pelitic and graphitic pelitic gneisses and the underlying Archean granitoid orthogneisses and foliated granites. The U-Th-REE mineralization occurs dominantly in fractured and altered pegmatite and is accompanied by varying degrees of clay (illite, dickite and kaolinite), chlorite, hematite, fluorite and sausserite alteration. The mineralization is associated with elevated concentrations of copper, nickel, vanadium, bismuth, zinc, cobalt, lead and molybdenum.

This style of primary uranium mineralization associated with intrusive rocks such as granitic pegmatites and alaskite is commonly referred to as 'Rössing type' mineralization. Examples of this style of mineralization include the Rössing uranium mine, the Valencia deposit, which is currently under development, and the Rössing South deposit which is under exploration, all of which are in Namibia

GeoVector Management Inc. ("GeoVector") was contracted by JNR to complete an initial resource estimate for the Fraser Lakes B Zone and to prepare a technical report on the resource estimate in compliance with the requirements of NI 43-101. The Fraser Lakes B Zone deposit is currently estimated Using a base case cut off grade (COG) of 0.01% U_3O_8 , the Fraser Lakes B Zone deposit is currently estimated to contain an Inferred resource totalling 6,960,681 lbs of U_3O_8 within 10,354,926 tonnes at an average grade of 0.030% U_3O_8 . There are also significant quantities of rare earth element oxides (REO), specifically La_2O_3 , Ce_2O_3 , Yb_2O_3 , and Y_2O_3 . The inferred resource also includes a significant thorium component. Using the base case cut off

grade (COG) of 0.01% U_3O_8 , the Inferred resource includes 5, 339, 219 lbs of ThO_2 at an average grade of 0.023%.

The resource was determined from a database of 1,283 assay results in 32 drill holes totalling 5,694 metres of drilling completed by JNR between August, 2008 and April, 2011. The drill holes are spaced primarily 75 to 250 meters apart along a strike length of approximately 1,400 meters. The drill holes tested mineralization to a vertical depth up to 175 meters. Mineralization varies in thickness from 2 meters to over 20 meters. The resource estimate is categorized as Inferred as defined by the Canadian Institute of Mining and Metallurgy guidelines for resource reporting. Mineral resources do not demonstrate economic viability, and there is no certainty that this mineral resource will be converted into mineable reserves once economic considerations are applied.

A focused exploration program is recommended for the Way Lake property. The primary objectives are to define additional resources at the Fraser Lakes B Zone by establishing the potential for extension of the mineralized zone to the east and west of the currently defined deposit. Additional priorities are to establish the potential for mineralization in the T-Bone Lake, Fraser Lakes Zone A and Fraser Lakes North target areas identified by geophysics and previous drilling. In addition, further interpretation of geochemical and assay data in conjunction with geological and structural analysis will improve the effectiveness of targeting for future drill programs. Total cost of a recommended work program is estimated at approximately CAD \$6.1 million.

2 INTRODUCTION

GeoVector Management Inc. (“GeoVector”) was contracted by JNR Resources Inc. (“JNR”) to complete an initial resource estimate for the Fraser Lakes Zone B (“Zone B”) at its 80,925 hectare Way Lake Uranium Project (“Property”), and to prepare a technical report on it in compliance with the requirements of NI 43-101. GeoVector is an Ottawa-based firm that provides geoscientific consulting services to the mining industry. Allan Armitage, Ph.D., P.Geol. (“Armitage”) of GeoVector and Alan Sexton, M.Sc., P.Geol. (“Sexton”) of GeoVector are independent Qualified Persons. Armitage and Sexton are responsible for the preparation of this report (Armitage and Sexton are collectively referred to as the “Authors”).

This technical report will be used by JNR in fulfillment of their continuing disclosure requirements under Canadian securities laws, including National Instrument 43-101 – *Standards of Disclosure for Mineral Projects* (“NI 43-101”). This report is based upon publicly-available assessment reports and unpublished reports and property data provided by JNR, as supplemented by publicly-available government maps and publications. Armitage personally inspected the Property and drill core on July 13, 2012. During the visit Armitage reviewed drill core from the 2008-2011 drill programs, as well as core logging and sampling procedures.

3 RELIANCE ON OTHER EXPERTS

This report documents an estimate of the size and grade of a mineral resource which occurs on the Property, but the report does not indicate that an economic orebody is present. GeoVector’s sole opinion on this subject is that the drilling to date has defined, at a cut-off grade of 0.01% U₃O₈ an Inferred resource totalling 6,960,681 lbs. based on 10,354,926 tonnes at an average grade of 0.030% U₃O₈.

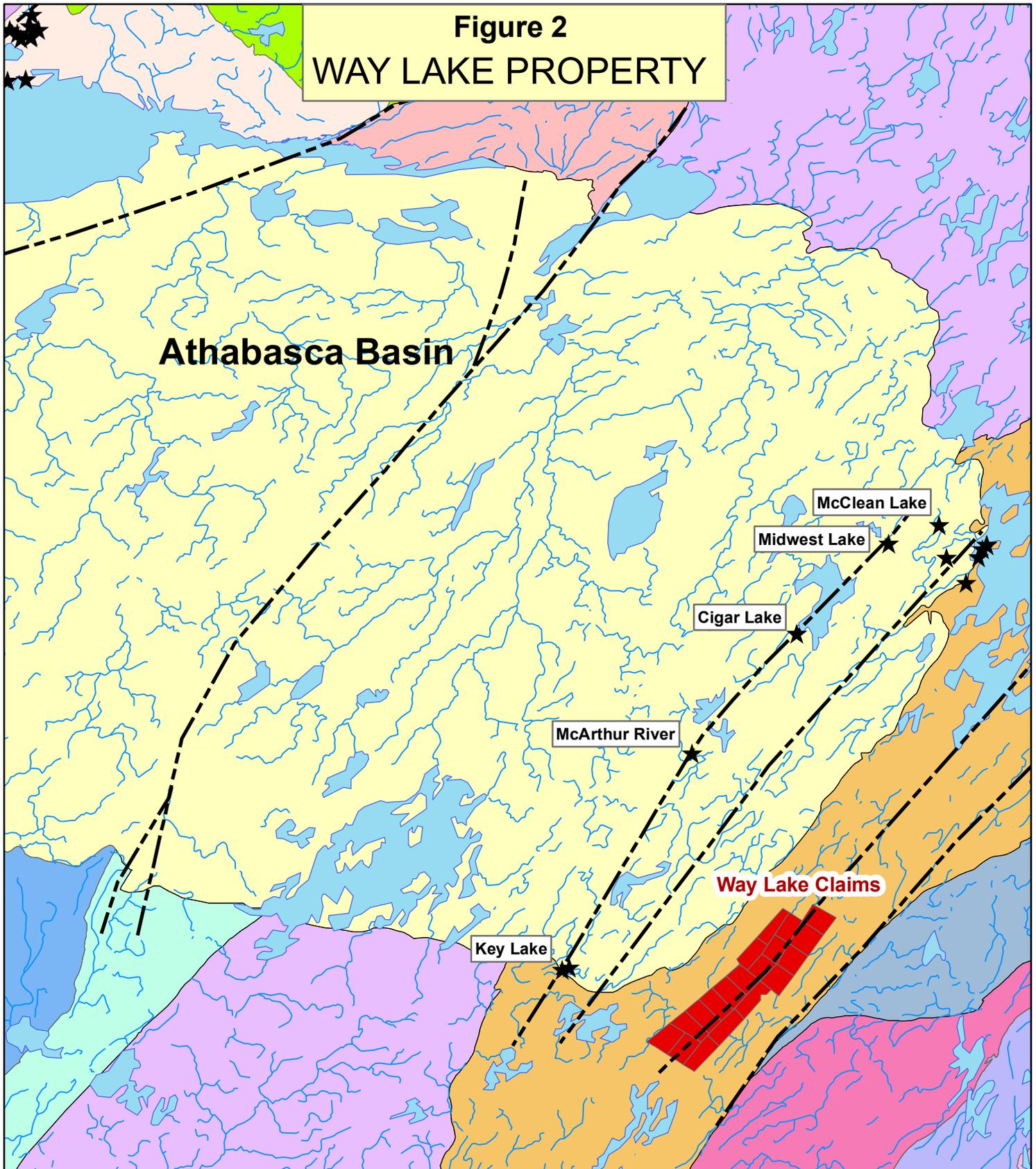
To complete the resource estimate, the Authors relied on information from reports prepared by JNR which detail surface and drill results, as well as other historical reports on the Property. A detailed list of reports is cited in the text and listed in Section 27. The Authors have reviewed this material and believe that this data has been collected in a careful and conscientious manner and in accordance with the standards set out in NI 43-101. The interpretations / observations presented in this report (Sections 4-13) are largely based on this material and data.

4 PROPERTY DESCRIPTION AND LOCATION

4.1 Property Location

The Way Lake Uranium Project is located 20 km east of the Proterozoic Athabasca Basin in northern Saskatchewan, Canada (Figures 1 and 2). The property lies approximately 55 km east of Key Lake, 35 km southeast of Moore Lakes, 260 km north of La Ronge and 580 km north of Saskatoon, Saskatchewan. The property is located in the Northern Mining District of Saskatchewan on 1:50,000 NTS map sheets 74A/14, 74A/15, 74H/01, 74H/02, 74H/03, 74H/07 and 74H/08. The property is elongated in a northeast direction with a northeast-southwest length

Figure 2
WAY LAKE PROPERTY



Legend

- Structural Lineament
- Mine Locations
- JNR Claims

Precambrian Domains

- | | | |
|-----------------|-------------|--------------------|
| Athabasca Basin | Rottenstone | Virgin River |
| Beaverlodge | Taltson | Wathaman Batholith |
| Mudjatik | Tantato | Wollaston |
| Peter Lake | Train | |



1:1,500,000



Annesley, et.al. 2005

of 60 km and an average northwest-southeast width of 15 km. The property is centred on UTM 515000E, 6335000N in Zone 13 (NAD83; Fig. 3).

4.2 Property Description

The Way Lake Uranium Project is comprised of 19 contiguous claims covering an area of 80,925.0 hectares (199,970.0 acres; Figure 3; Table 1). All claims are in good standing at the time of writing. JNR staked the initial property in 2004 and has added claims to the property in 2006 and 2010. JNR is the 100% owner of the property.

Surrounding claims are held by Cameco Corp., Denison Mines Inc., AREVA Resources Canada, Rio Tinto Plc., Eagle Plains Resources Ltd. and Phalanx Disposition Management Ltd.

There are no known environmental liabilities associated with the Property and there are no other significant factors and risks that may affect access, title, or the right or ability to perform work on the property.

All the necessary permits for surface exploration on the property are in place and current. Activities on the project property to date have been limited to resource delineation and gathering of environmental baseline data. The environmental liabilities associated with these activities are consistent with low impact exploration activities. The mitigation measures associated with these impacts are accounted for within the current surface exploration permits and authorizations.

Exploration and mining in Saskatchewan is governed by the Mineral Disposition Regulations 1986, and administered by the Mines Branch of the Saskatchewan Ministry of Energy and Resources. There are two key land tenure milestones that must be met in order for commercial production to occur in Saskatchewan: (1) conversion of a mineral claim to mineral lease, and (2) granting of a Surface Lease to cover the specific surface area within a mineral lease where mining is to occur.

A mineral claim does not grant the holder the right to mine minerals except for exploration purposes. Subject to completing necessary expenditure requirements, mineral claims can be renewed for a maximum of twenty-one years. Beginning in the second year, and continuing to the tenth anniversary of staking a claim, the annual expenditure required to maintain claim ownership is twelve dollars per hectare.

A mineral claim in good standing can be converted to a mineral lease by applying to the mining recorder and have a completed boundary survey. In contrast to a mineral claim, the acquisition of a mineral lease grants the holder the exclusive right to explore for, mine, recover, and dispose of any minerals within the mineral lease. Mineral leases are valid for ten years and are renewable.

Land within the mineral lease, surface facilities and mine workings are considered to be located on Provincial lands and therefore owned by the Province. Hence, the right to use and occupy those lands is acquired under a surface lease from the Province of Saskatchewan. A surface lease is issued for a maximum of 33 years, and may be extended as necessary to allow the lessee to operate a mine and/or plant and undertake reclamation of disturbed ground.

Table 1 Way Lake Property Claim Information.

Claim Number	NTS Map Sheet	Area (ha)	Record Date	Anniversary Date	Total Annual Req'd Work
S-107394	74H/08	4,432.00	20-May-04	20-May-13	\$53,184.00
S-107395	74H/07	5,293.00	20-May-04	20-May-13	\$63,516.00
S-107396	74H/02	4,348.00	20-May-04	20-May-13	\$52,176.00
S-110156	74H/07	3,408.00	08-Sept-06	08-Sept-13	\$40,896.00
S-110157	74H/02	3,915.00	08-Sept-06	08-Sept-13	\$46,980.00
S-110182	74A/14	4,435.00	17-Oct-06	17-Oct-12	\$53,220.00
S-110183	74H/02	4,724.00	17-Oct-06	17-Oct-12	\$56,688.00
S-110184	74H/02	4,478.00	17-Oct-06	17-Oct-12	\$53,736.00
S-110191	74H/03	4,497.00	31-Aug-06	31-Aug-13	\$53,964.00
S-110192	74H/02	4,669.00	31-Aug-06	31-Aug-13	\$56,028.00
S-110193	74H/02	4,383.00	31-Aug-06	31-Aug-13	\$52,596.00
S-110194	74H/02	4,554.00	31-Aug-06	31-Aug-13	\$54,648.00
S-110195	74H/02	4,142.00	31-Aug-06	31-Aug-13	\$49,704.00
S-110196	74H/02	4,426.00	31-Aug-06	31-Aug-13	\$53,112.00
S-110197	74H/02	3,163.00	31-Aug-06	31-Aug-13	\$37,956.00
S-110198	74H/07	3,410.00	31-Aug-06	31-Aug-13	\$40,920.00
S-110199	75H/07	3,518.00	31-Aug-06	31-Aug-13	\$42,216.00
S-111681	74A/14	4,320.00	18-May-10	18-May-13	\$64,800.00
S-111770	74H/03	4,810.00	18-May-10	18-May-13	\$72,150.00
TOTALS		80,925.00			<u>\$998,490.00</u>

5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 Accessibility

The Way Lake project is accessed by float or ski equipped aircraft or by winter road from Key Lake along the historic Key Lake winter road which passes through the southern edge of the property.

5.2 Climate

The Way Lake project area lies in a sub-arctic climate region. Winters are generally extremely cold and dry with temperatures regularly dropping below -30°C. The cold temperatures allow for a sufficient ice thickness to support a drill rig generally from mid-January to mid-April. Temperatures in the summer can vary widely with yearly maxima of around 30°C commonly recorded in late July.

5.3 Local Resources

Companies from Points North and La Ronge provide general mechanical services, equipment storage and camp supplies. General drill program supplies and equipment for the project are provided by mining and exploration expediting services based out of La Ronge and Saskatoon, Saskatchewan. Core camp helpers are sourced from the local communities of Stanley Mission and Wollaston Lake.

5.4 Infrastructure

At present there are camp facilities consisting of tents that are used for the core logging facility, kitchen, dry and sleeping quarters on the Way Lake Uranium Project. A camp size generator supplies the power requirements for the camp. Fresh water can be readily obtained from the numerous surrounding lakes. The Key Lake deposit is approximately 55 km west of the project (Figure 2).

5.5 Physiography

The project area is characterized by gently rolling relief covered by thinly wooded boreal forest. Numerous lakes and ponds generally show a north-easterly elongation imparted by the last glaciation due in part to the northeast grain of the underlying bedrock and subsequent glacial rebound along reactivated basement structures. Broad zones of muskeg are present at low elevations around many of the local lakes. The camp lies at approximately 525 metres asl. Vegetation is predominantly thinly distributed black spruce, alder and jack pine with lesser birch, while ground cover comprises mostly reindeer lichen and Labrador tea. Outcrop is scarce and averages <5% of the project area.

6 HISTORY

Uranium exploration has been undertaken on the Way Lake Uranium Project for over 40 years. Numerous and varied programs have been carried out on different portions of the property, including diamond drill campaigns, airborne and ground geophysics, boulder sampling and prospecting. A short summary of previous work and more recent work is presented below. A more detailed description of work completed by JNR is presented in Sections 9 and 10.

1968:

In 1968 Eric Partridge identified anomalous copper and molybdenum in pegmatite 700 meters west of the central portion of Fraser Lakes (Partridge, 1968).

1969:

Dynamic Petroleum Products Limited followed up the work done by Eric Partridge with an airborne EM, magnetic and radiometric survey. The survey outlined a moderately strong conductor with a weak radiometric anomaly in the area of the anomalous copper and molybdenum (Foster, 1970).

1971:

Dynamic Petroleum Products Limited completed prospecting, detailed geological mapping, VLF-EM 16, scintillometer surveys and trenching over the Fraser Lakes showings as a follow up to the 1969 airborne survey. Uraninite, 2 to 3% pyrrhotite, up to 1% chalcopyrite, trace molybdenite, and 3 to 4% magnetite was identified in four trenches. Analytical values from the trenches returned an average of 0.081 wt% U₃O₈, 0.064 wt% ThO₂, 0.003 wt% Ni, 0.024 wt% Cu, 0.005 wt% MoS₂, 0.023 wt% Pb and 0.13 wt% Zn in grab samples (Ko, 1971).

1978:

AGIP completed an airborne EM and magnetic INPUT survey, which outlined three arcuate conductors, Zones A, B and C in the southern half of the property. The survey was followed up by local and regional ground VLF-EM, radiometric, geochemical, prospecting and geological surveys. Regional geologic mapping and radiometric prospecting located numerous sub-rounded to rounded uraniferous boulders of various lithologies, and one localized zone (30x10 m) of extremely anomalous radioactivity in a swamp near Hook Lake (Zone S) in the northern part (Figure 3) of the property (Donkers and Tykajlo, 1982).

1979:

AGIP completed trenching on Zone S and exposed a large (6x1.5 m) vein of very high grade uranium mineralization in a shear zone. An average of 28 wt% U₃O₈ and extremely high rare earth values over an interval of 1.5 meters were outlined by systematic chip sampling across the vein. The vein was drill tested by six holes, none of which returned any significant uranium mineralization. Three holes were drilled on Zones A and B which intersected graphitic metasediments, faulting and anomalous Cu, Ni, Co and U geochemistry (Donkers and Tykajlo, 1982).

1980-1983:

165 square kilometers of ground work, including regional prospecting and mapping and detailed exploration of the S grid by AGIP. The work on the S grid included numerous geological, geochemical, geophysical, radiometric, prospecting and structural surveys as well as the completion of an additional 14 drill holes. Mineralization was intersected in five drill holes with grades ranging from 0.04 wt% U/1.6 m to 1.88 wt% U/1.1 m. AGIP subsequently dropped the property and the property remained dormant until JNR staked their initial claims in 2004 (Donkers and Tykajlo, 1982; Fedorowick, 1984).

7 GEOLOGICAL SETTING AND MINERALIZATION

7.1 Regional Bedrock Geology

The Way Lake Uranium Project is located 25 km southeast of the southeastern margin of the Athabasca Basin in the eastern Wollaston Domain, part of the eastern sub-Athabasca basement complex (Figure 2).

The Athabasca Basin occurs within the southwestern part of the Churchill Structural Province of the Canadian Shield. The 100,000 square km basin is filled by unmetamorphosed sediments that

are dominated by, variably hematized, siliciclastic, conglomeratic sandstone. A thin quartz pebble basal conglomerate is intermittently present along the lower margin of the basin. Around the Carswell meteorite impact structure in the western centre of the basin a sequence of dolostones and basement granitoids to granitoid gneisses are exposed. Detrital zircon geochronology constrains the age of the basin to Helikian age, between 1,760 and 1,500 Ma (Ramaekers et al., 2007). A maximum depth of 1,500 m has been established through diamond drilling, whereas seismic surveying indicates a maximum depth of approximately 1,700 m (Hobson and MacAuley, 1969). Based on isopachs and paleocurrent directions the Athabasca Basin is interpreted to have been filled over a 200 Ma period in four major depositional sequences which coalesced into a single basin (Ramaekers et al., 2007). Faults are generally oriented north to northeast, roughly parallel to the underlying crystalline basement geology, suggesting reactivation from major basement structures. The Athabasca Basin unconformably overlies the northeast-trending Archean to Paleoproterozoic crystalline basement rocks (Figure 4). Over a large scale, the unconformity is relatively flat lying with a gentle dip towards the centre of the basin in the east and a steeper dip in the north, south and west portions of the basin.

The Archean to Paleoproterozoic crystalline basement underlying the Athabasca Basin forms part of the Churchill craton that was strongly deformed and metamorphosed during the Hudsonian Orogeny (Lewry and Sibbald, 1977, 1980; Annesley, et.al., 1997, 1999 2005). The crystalline basement is comprised of three major lithotectonic zones; the Talston Magmatic Zone, the Rae Province and the Hearne Province (Figure 4). The basement underlying the Athabasca Basin is interpreted to consist dominantly of rocks of the Rae and Hearne provinces.

The Talston Magmatic Zone underlies the Athabasca Basin on its far west side. The Talston Magmatic Zone extends from northern Alberta to Great Slave Lake in the Northwest Territories and is dominated by a variety of plutonic rocks and an older basement complex (McNicoll et al., 2000). The basement complex varies widely in composition from amphibolites to granitic gneiss to high-grade pelitic gneiss.

The Rae Province is comprised of five domains as well as a column of material comprising the core of the Carswell meteorite impact structure. The Zemlack Domain is dominantly comprised of highly deformed and metamorphosed magmatic gneisses. The Beaverlodge Domain consists mainly of greenschist to amphibolite facies supracrustal rocks with lesser meta-igneous rocks. The Uranium City ore deposits are found in the Beaverlodge Domain. The Tantato Domain is separated into two structural packages termed the lower and upper decks (Hanmer et al., 1994). The upper deck, in the south of the domain, is dominated by psammitic to pelitic migmatite with lesser mafic granulite (Hanmer, 1997). The lower deck is dominated by a tonalite batholith to the east and granitoid orthogneiss to the west (Hanmer, 1997; Williams et al., 2000). The Lloyd Domain consists mainly of granodioritic orthogneiss with lesser psammo-pelite to pelite, intercalated psammite, quartzite, amphibolites and ultramafics (Lewry and Sibbald, 1977; Card, 2002). Rocks of the Clearwater Domain are largely unexposed but are presumed to be K-feldspar rich granite and granitoid gneiss based on drill core and limited exposure (Sibbald, 1974; Card, 2002). The Carswell impact structure is characterized by a core of granitoid gneiss, pelitic diatexite, pegmatite and mafic gneiss (Figure 4).

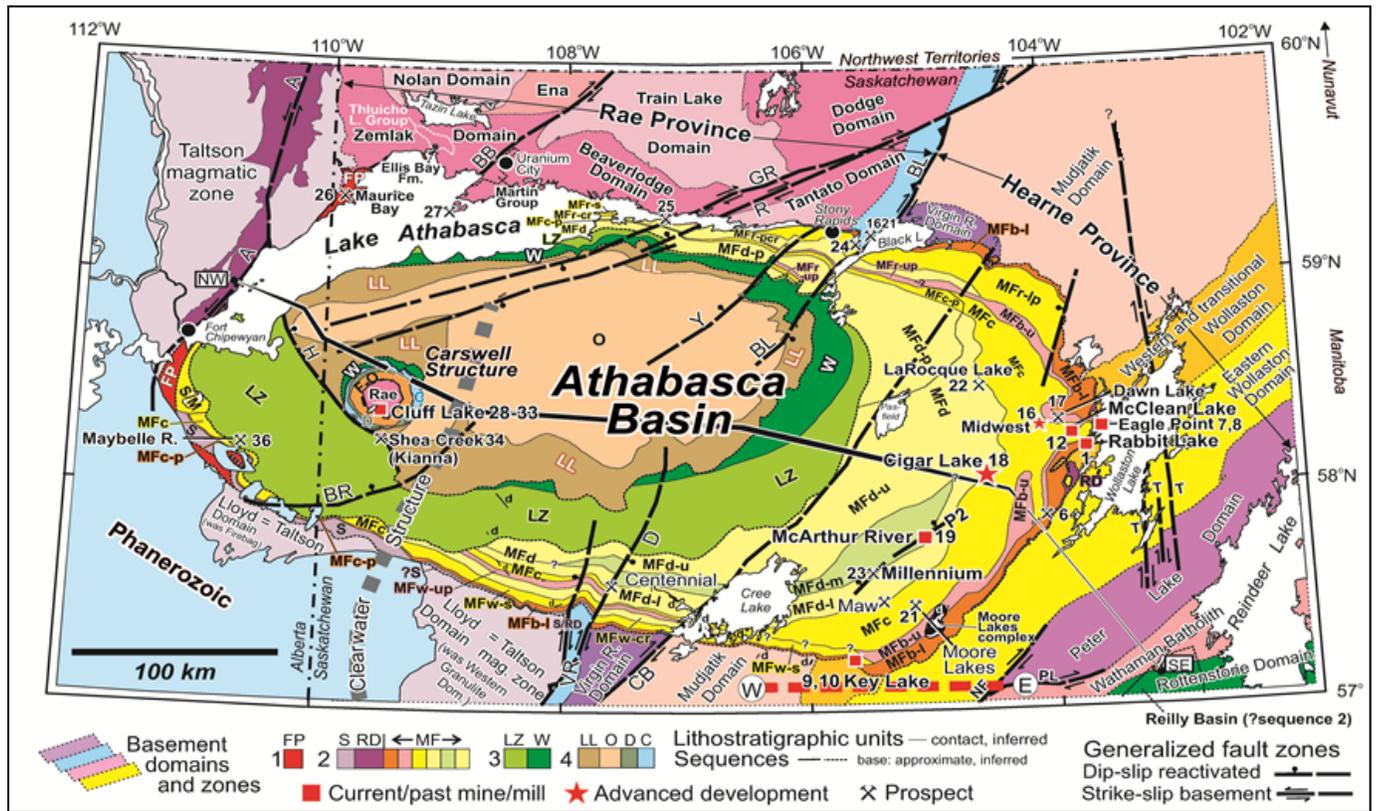


Figure 4 Regional geology of northern Saskatchewan (from Jefferson et al., 2007).

The Hearne Province is made up of the Wollaston, Mudjatik and Virgin River domains (Figure 4), including the Mudjatik-Wollaston Transition zone (WMTZ) which is prospective for pegmatite hosted U-Th-REO mineralization (Figure 5). The Hearne and Rae provinces are separated by the northeast trending Virgin River shear zone. The Virgin River and Mudjatik domains comprise similar rock types but are separated based on differing structural styles (Wallis, 1970; Lewry and Sibbald, 1977). Linear structures are typical in the Virgin River Domain, whereas dome and basin structures are more typical in the Mudjatik Domain. The rock types making up both domains are interbedded psammitic to pelitic gneisses and granitoid gneiss with lesser mafic granulite, quartzite, calc-silicate and iron formation (Lewry and Sibbald, 1980). The Wollaston Domain is separated from the Mudjatik Domain based on an increased proportion of metasedimentary rocks (Yeo and Delaney, 2007) and a change from dome and basin style structures to linear style structures (Lewry and Sibbald, 1977). The rock types making up the Wollaston Domain are typically variably graphitic Paleoproterozoic metasedimentary gneiss and Archean granitoid gneiss.

Major fault zones in the basement are generally northeast- to east-trending and include the Snowbird tectonic zone, Grease River shear zone, Black Bay fault, Cable Bay shear zone, Beatty River shear zone and Tabbernor fault zone. Faulting causes offsets in all lithologies from Archean to Helikian age. Both normal and reverse faults occur within the Wollaston and Athabasca Groups. The most recognizable faults have a north-northeast trend and belong to the Tabbernor fault system. Northeast-trending faults are present, but are difficult to recognize because of their coincidence with the regional foliation and glacial trends.

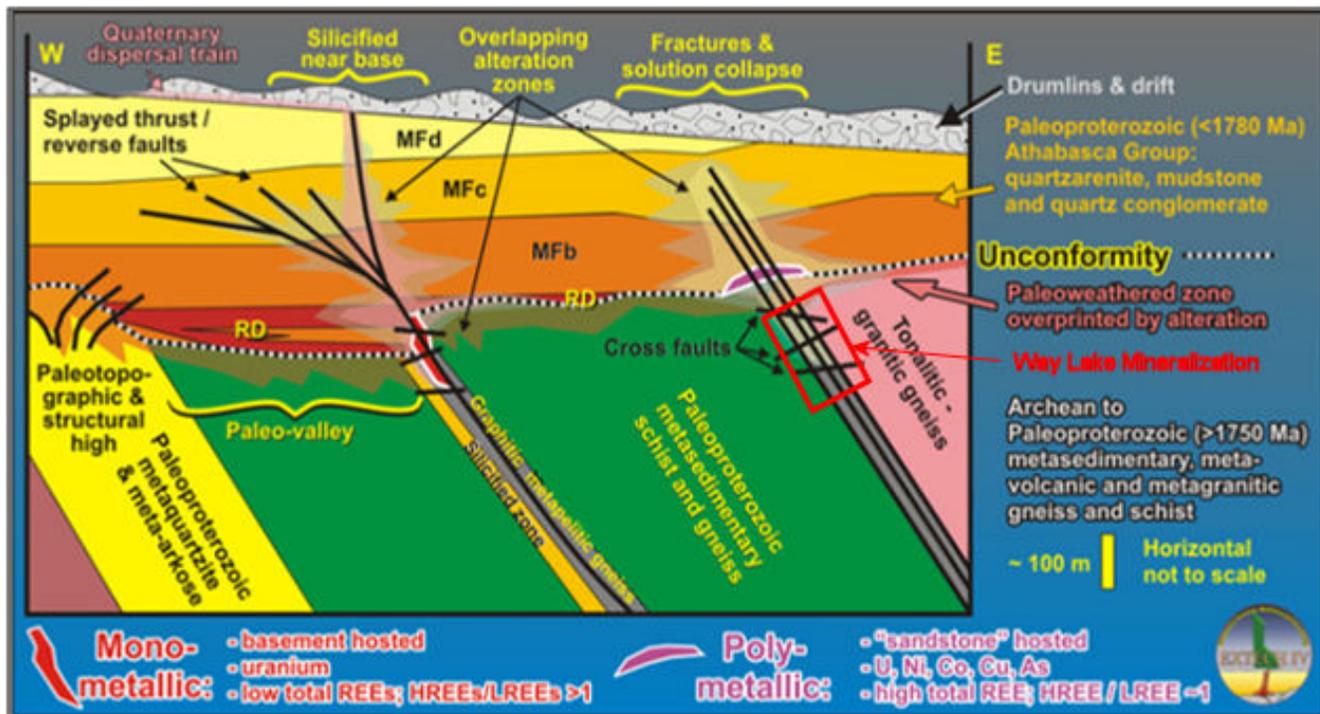


Figure 5: Cartoon showing the geological setting for the U-Th-REE mineralized granitic pegmatite's of the Way Lake or Fraser Lakes Zone B (modified from Jefferson et al., 2007).

Upper amphibolite to lower granulite facies metamorphism predominates in the Wollaston Group metasediments and upper amphibolite to granulite facies is characteristic of the Archean granitic inliers.

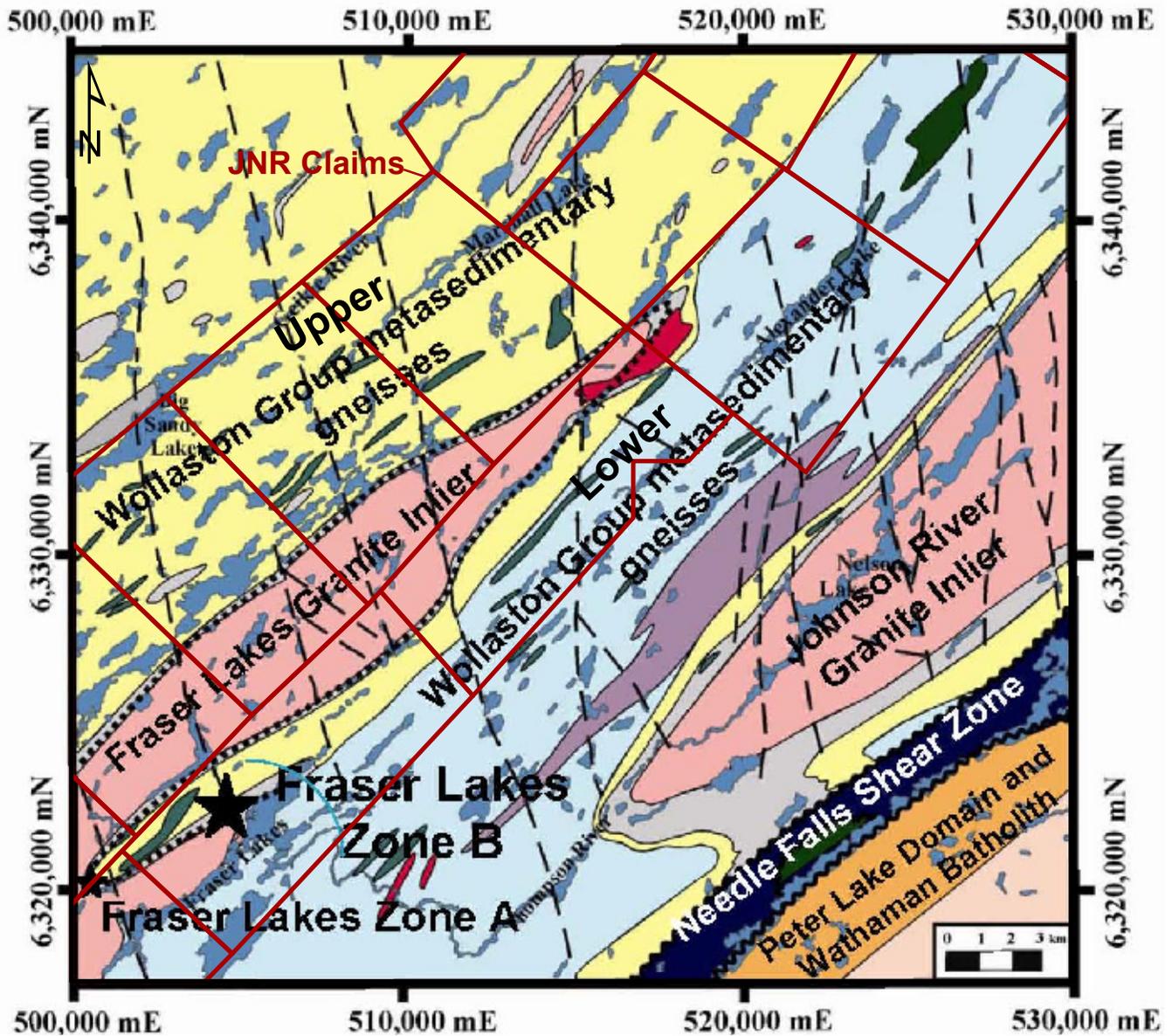
7.2 Property Geology

The Way Lake property and uranium showings occur in the eastern Wollaston Domain, approximately 25 kilometers east-southeast of the eastern edge of the Athabasca Basin. The claims are underlain by a steeply dipping, northeast-trending, highly folded, medium- to high-grade sequence of intercalated Paleoproterozoic Wollaston Group metasediments and Archean orthogneisses, intruded by Hudsonian gabbroids and granitic pegmatites (Figure 6; Table 2).

The rocks exposed within the project area consist of Archean felsic gneisses unconformably overlain by metamorphosed Paleoproterozoic shelf-type sediments of the Wollaston Group. These rocks are intruded by mafic rocks of gabbroic composition, by massive and weakly foliated leucocratic granite and by several generations of granitic pegmatites. The uranium mineralization identified on the Fraser Lakes Zones A and B property in 2008 is proximal to a 5 kilometer long folded EM conductor (Figure 6) that is comprised of Wollaston Group graphitic pelitic gneisses and uraniumiferous granitic pegmatites and leucogranites. The uraniumiferous granitic pegmatites and leucogranites occur within a highly tectonized contact between Archean granitoids and basal Wollaston Group pelitic metasediments. This tectonized contact, or shear zone, is folded around Archean granitic domes and is thickest within NE-plunging synformal and antiformal noses. These fold noses are interpreted to have been dilation zones with potential for brittle re-activation and associated fluid flow, alteration and mineralization after deposition of the Athabasca sandstones (Annesley et.al., 2010). The uraniumiferous quartz-feldspar-biotite pegmatites and leucogranites contain minor to trace amounts

Way Lakes Property Geology

Figure 6



After Ray, 1979

of uranite, U-Th-REE rich monazite, molybdenite, chalcopryrite, pyrite and ilmenite. Locally, dark smoky quartz segregations and veins also occur.

The Fraser Lakes Zone B comprises numerous outcrop showings along the northern extent of a folded EM conductor. Nearly 70 individual mineralized outcrops have been identified over a 500 meter wide by 1.5 kilometer long area within an antiformal fold nose that is cut by an east-west dextral ductile-brittle cross-structure and younger NNW trending and NNE trending brittle faults.

The Fraser Lakes Zone A uranium showings occur along the southern extent of the folded EM conductor within a re-activated synformal fold nose associated with Wollaston Group graphitic pelitic gneisses and uraniferous leucogranites.

Faulting is abundant within the area and is recognized by topographic lineaments and by magnetic discontinuities. The most obvious fault set strikes north-northwest. Another fault set, trending almost parallel to the dominant foliation (050°), is suggested by the presence of linear topographic features. Two deformational events are recognized in the rocks in the area. The first deformation caused doming of the Archean basement without penetration of the overlying metasediments. This deformation produced a schistosity or gneissosity in the Archean basement rocks and overlying Paleoproterozoic metasediments. The second deformational event caused flattening of the Archean inliers into northeasterly-trending domes and produced tight isoclinal folds in the overlying metasediments. These folds are doubly plunging synforms and antiforms with sub-vertically dipping axial surfaces.

The area was subjected to upper amphibolite to lower granulite facies metamorphism during the Hudsonian Orogeny. This is indicated by the presence of biotite, cordierite, sillimanite, Ti-rich tourmaline, diopside, almandine garnet and locally hypersthene in the pelitic metasediments.

7.3 Mineralization

Fraser Lakes Zone B

The Fraser Lakes Zone B was discovered during the summer 2008 prospecting and drilling (WYL-08-524, 525 and 526). These three holes did not test the optimum target of the graphitic pelitic gneiss and granitic pegmatite contact due to summer ground conditions. However, all three holes did intersect uraniferous mineralized granitic pegmatite. The best results were from WYL-08-525 which intersected several uraniferous intervals, with the best zone returning 0.081 wt% U_3O_8 over 12.0 meters from 77.50 to 89.50 meters depth down the drill hole.

The Zone B deposit is currently defined by 32 NQ drill holes totaling 5,694.0 meters. The Zone B mineralization has a strike length of 1400 meters, trends roughly 240° and dips approximately 30° to the north. In cross-section, the pegmatite hosted mineralization is tabular in shape. The Zone B mineralization ranges from 2 to 20 meters in width over a vertical thickness of approximately 175 meters.

Table 2 Generalized Lithostratigraphy of the Way Lake Area (Cutford and Billard, 2010)

LATE PALEOPROTEROZOIC:

Pegmatite, Granite, and Mafic
Intrusive

~~~~Unconformity~~~~

***PALEOPROTEROZOIC:***

*Evaporitic Wollaston Group Metasediments*

– diopside quartz plagioclase gneiss, typically interlayered with graphitic pelite;

*Psammitic Wollaston Group Metasediments*

– meta-arkose, diopsidic meta-arkose, and quartzite;

*Pelitic Wollaston Group Metasediments*

–biotite-plagioclase-quartz gneiss interlayered with calc-silicate; biotite-K-feldspar-plagioclase-quartz gneiss with garnet, cordierite, sillimanite and/or graphite; biotite-K-feldspar-quartz gneiss with interlayered meta-psammitic

~~~~Unconformity~~~~

LATE ARCHEAN/PALEOPROTEROZOIC:

Metamorphosed sandstones, arkoses, conglomerates, volcanics and volcanoclastics

~~~~Unconformity~~~~

***ARCHEAN:***

Mafic Gneiss – composed of hornblende-biotite-plagioclase with hypersthene

Felsic Gneiss – syenogranite to monzogranite composition

The geologic setting for Zone B is within a highly tectonized contact between Archean granitoids and the overlying basal Wollaston Group pelitic metasediments. This tectonized contact, or shear zone, is folded around Archean granitic domes and is thickest within the NE-plunging antiformal nose.

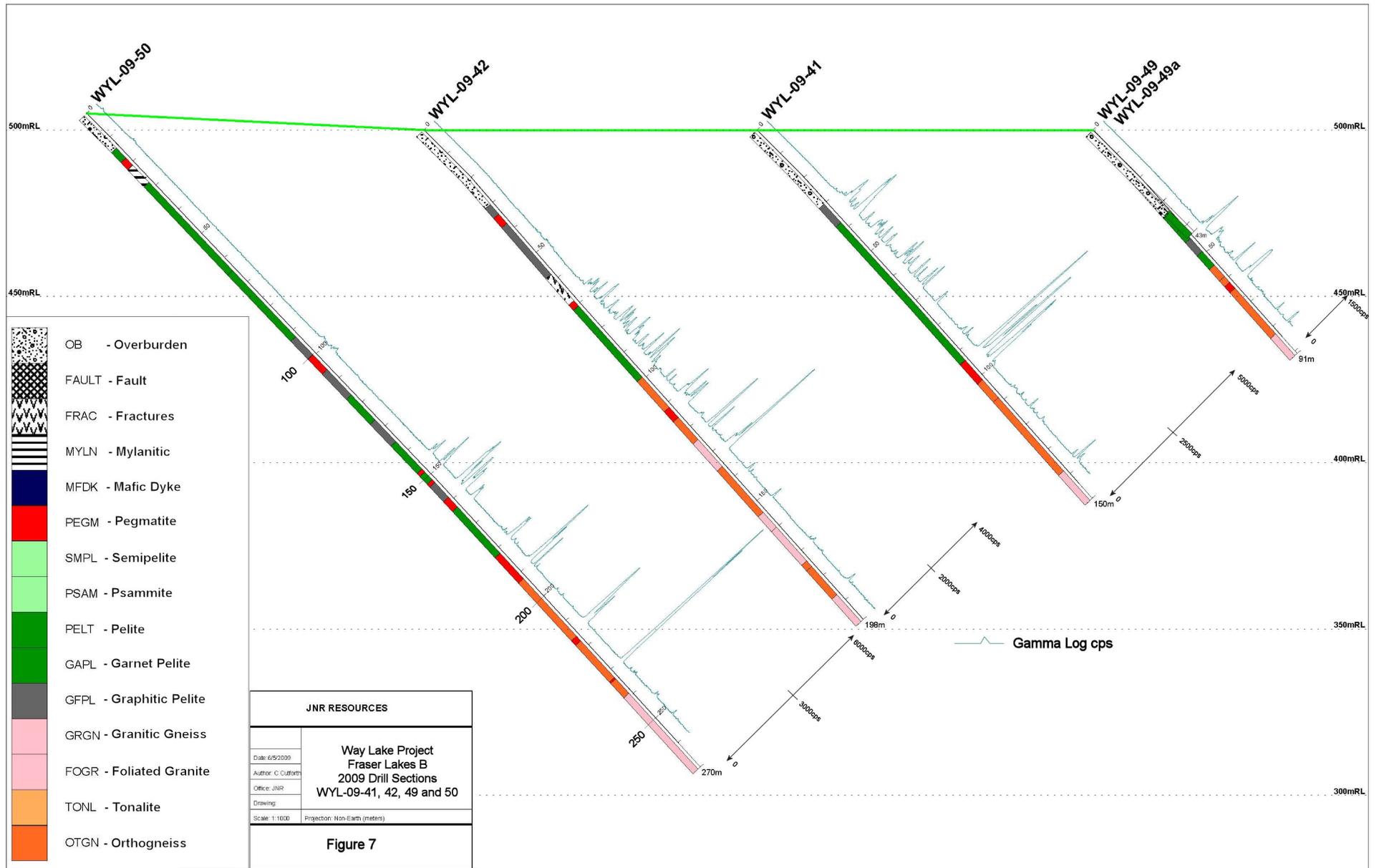
The Fraser Lakes Zone B shows up as clearly visible radiometric highs adjacent to a conductive zone identified from airborne EM data. Interpretation of the airborne magnetic surveys has outlined several ductile-brittle and brittle structures that cross cut the Fraser Lakes Zone B.

A selection of significant drill hole intercepts in terms of interval length and grade of mineralization is shown in Table 3 and a selected cross-section is provided as Figure 7. The Fraser Lakes Zone B orebody is shallow dipping, and therefore, the drill holes have been drilled at angles of  $-45$  to  $-50$  in order to intersect the uraniferous mineralization perpendicularly, thereby giving an approximate true thickness.

### **Macroscopic Features**

The Wollaston Group psammopelitic and pelitic gneisses of the Fraser Lakes Zone B are intruded by veins, sheets and dykes of radioactive granitic pegmatites/leucogranite. The intrusive rock types are medium-grained to pegmatitic with variable amounts of quartz, feldspar and biotite (McKechnie, et.al., 2012a, b, c). The accessory minerals consist of trace to minor amounts of garnet, fluorite, sphalerite, molybdenite, chalcopyrite, pyrite, magnetite and ilmenite. Locally, dark smoky quartz segregations and veins occur within the mineralized intervals.

There are multiple generations of granitic pegmatites with the mineralized pegmatites usually being syntectonic, and older, and non-mineralized pegmatites being late-tectonic, and younger. U-Pb age dating of magmatic uraninite has returned ages of 1850-1780 Ma for the mineralized pegmatites. The U-Th-REE mineralized granitic pegmatites that define Zone B occur within an antiformal fold nose that is cut by an east-west dextral ductile-brittle cross-structure and younger NNW trending and NNE trending brittle faults. The mineralized pegmatites have been further sub-divided based on mineralogical studies (McKechnie et.al., 2012a,b,c). These studies defined two main groups of granitic pegmatites/leucogranites based on their uranium-thorium (U-Th) versus thorium-rare earth element oxides (Th-REO) contents and their relative position within the antiformal fold nose. The term Group A intrusives refers to the syn- to late-tectonic pegmatites that intrude the northwest limb of the northeast-plunging antiformal fold. The term Group B intrusives refers to the syn- to late-tectonic thorium-REE rich pegmatites that intrude the central portion of the northeast plunging antiformal fold nose.



**Table 3 Notable drill hole intercepts at the Fraser Lakes Zone B deposit.**

| Hole ID   | From (m) | To (m) | Interval length (m) | Grade (wt% U <sub>3</sub> O <sub>8</sub> ) | Grade (wt% ThO <sub>3</sub> ) |
|-----------|----------|--------|---------------------|--------------------------------------------|-------------------------------|
| WYL-09-41 | 94.0     | 95.0   | 1.0                 | 0.134                                      | 0.077                         |
| WYL-09-42 | 132.50   | 134.50 | 2.0                 | 0.036                                      | NSA                           |
| WYL-09-49 | 43.30    | 43.80  | 0.50                | 0.027                                      | 0.057                         |
| WYL-09-50 | 191.40   | 192.40 | 1.0                 | 0.040                                      | 0.059                         |
| WYL-09-50 | 232.60   | 233.60 | 1.0                 | 0.183                                      | 0.062                         |
| WYL-10-51 | 203.50   | 204.0  | 0.5                 | 0.179                                      | 0.059                         |
| WYL-10-57 | 47.50    | 48.50  | 1.0                 | 0.069                                      | 0.047                         |
| WYL-10-58 | 110.50   | 111.0  | 0.50                | 0.020                                      | 0.209                         |
| WYL-10-61 | 158.0    | 163.50 | 5.0                 | 0.057                                      | 0.056                         |

The U-Th-REE mineralization occurs dominantly in fractured and altered pegmatite. The dominant hydrothermal alteration observed is clay minerals (illite, dickite and kaolinite), chlorite, hematite, fluorite, sausserite and locally biotite-rich patches. The U-Th-REE mineralization is associated with elevated concentrations of copper, nickel, vanadium, bismuth, zinc, cobalt, lead and molybdenum.

### **Microscopic Features**

During the 2011 winter drill program a suite of mineralized core samples was collected from Zone B for petrographic and scanning electron microscope (SEM) analysis. The detailed thin section descriptions and SEM results are part of an MSC being completed by Christine Austman at the University of Saskatchewan ((McKechnie,et.al., 2012a, b, c). To date this research has determined that the secondary hydrothermal U-Th-REE mineralogy of the uraniferous Group A syn- to late-tectonic uraniferous pegmatites consists of abundant uranite, uranoan thorite, zircon and minor allanite; and the Group B syn- to late-tectonic thorium-REO rich pegmatites contain abundant monazite with lesser amounts of zircon, uranoan thorite, thorite, allanite and xenotime. The U-Th-REE mineralization occurs as a variety of interstitial grains, rims on silicate grains and as fracture fillings.

## **7.4 Quaternary Geology**

The Archean and Paleoproterozoic rocks of the Way Lake uranium project area are mantled by varying thicknesses of glacial and fluvio-glacial deposits. The glacial direction is approximately 030°. Lodgement till is ubiquitous in areas of outcrop. The till consists of angular boulders set in a matrix of silt and clay. Overlying lodgement till is a variable thickness of ablation till. In places this layer is several meters thick and covers an area of several square kilometers. The ablation till is distinguished from the lodgement till by a greater roundness and lithological heterogeneity of the boulders. The matrix contains less clay and more sand than the lodgement till. Fluvio-glacial deposits consisting of eskers and outwash plains overlie the ablation or

lodgement till layers. The eskers and outwash plains are respectively proximal and distal facies of the same process. Deposits occurring throughout the project area have an affinity with northeast-trending topographic lineaments.

## **8 DEPOSIT TYPES**

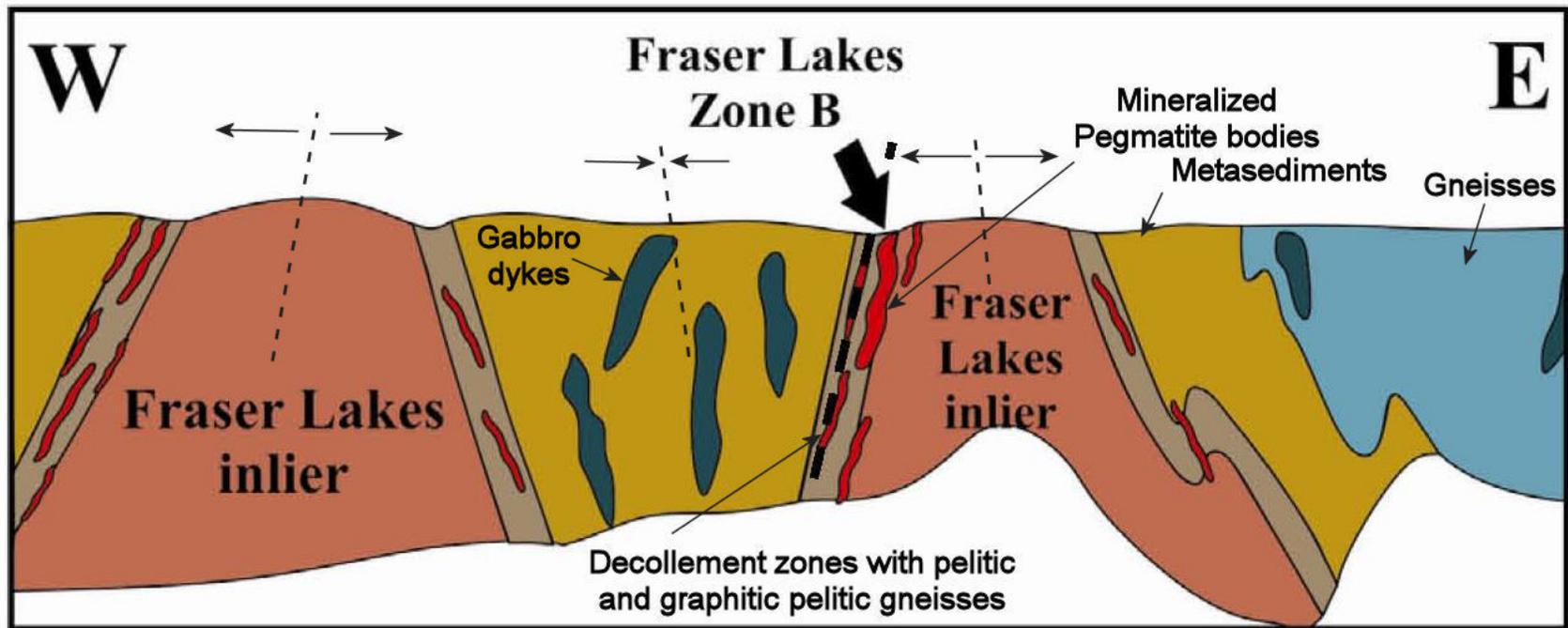
The Fraser Lakes Zone B uranium, thorium and rare earth oxide (REO) mineralization is associated with a series of ca. 1800 Ma sub-parallel granitic biotite-quartz-feldspar pegmatite dykes entrained within the tectonic decollement between Wollaston Group pelitic and graphitic pelitic gneisses of Paleoproterozoic age and underlying Archean granitoid orthogneisses and foliated granites. Mineralization is accompanied by brittle to brittle-ductile deformation and varying degrees of clay, chlorite and hematite alteration. This style of primary uranium mineralization associated with intrusive rocks such as granitic pegmatites and alaskite is commonly referred to as 'Rössing type' mineralization. Examples of this style of mineralization include the Rössing uranium mine, the Valencia deposit, which is currently under development, and the Rössing South deposit which is under exploration, all of which are in Namibia (Figure 8).

The Rössing deposit is located in the Namib Desert, in western central Namibia (IAEA, 2009, Berning et.al., 1976; Cerny et.al, 2005). Rössing is located on the south-western flank of a regional oval NE-SW trending dome, about 2 km from the contact of a gneissic Proterozoic basement and meta-sediments (schist and graphite- and sulphide-rich marble originated from continental plate-form sediments of the Damara Supergroup that deposited between 800 and 1,000 Ma.). There are many alaskitic bodies in the Rössing area.

The main constituents of the Rössing host rocks are quartz, microcline, microcline-perthite, and biotite. Textures are mainly of the pegmatite-type with occurrences of aplite, granite and graphic fabrics. The ore minerals at Rössing include primary, variably thoriferous uraninite as micron to 0.3 mm-sized inclusions in quartz, feldspars and biotite, in intergranular spaces and in veinlets; uranothorianite; uranothorite; betafite; and hexavalent uranium minerals, predominantly yellowish beta-uranophane. Associated minerals include monazite, zircon, apatite, titanite, pyrite, chalcopyrite, bornite, molybdenite, arsenopyrite, magnetite, hematite, ilmenite, and fluorite. Th/U ratios in the ore vary from less than 1 up to 3.

Individual ore shoots in the Rössing area may be several tens of meters to several hundred meters (i.e. 700 m) long and several tens to 600 m wide. Mineable ore has been proven to a depth of approximately 300 m (lowest level of the open pit) but drilling has intersected ore grades to a depth of at least 700 m.

The geodynamic settings of intrusive deposit types such as Rössing correspond to syn- to post-orogenic intrusions within intra-cratonic mobile belts. They are commonly in sharp contact with the surrounding rocks and have narrow contact metamorphic aureoles. Uranium-rich alaskite, quartz-monzonite, granite and associated pegmatites are generally considered the product of granitization of uraniumiferous crustal material (partial melting of sedimentary and volcanic rocks). The Rössing deposit is attributed more to ultrametamorphic-anatectic processes whereas, for



McKechnie, in press, modified after Ray, 1979

### Rossing South - 7506000n - Geology Interpretation

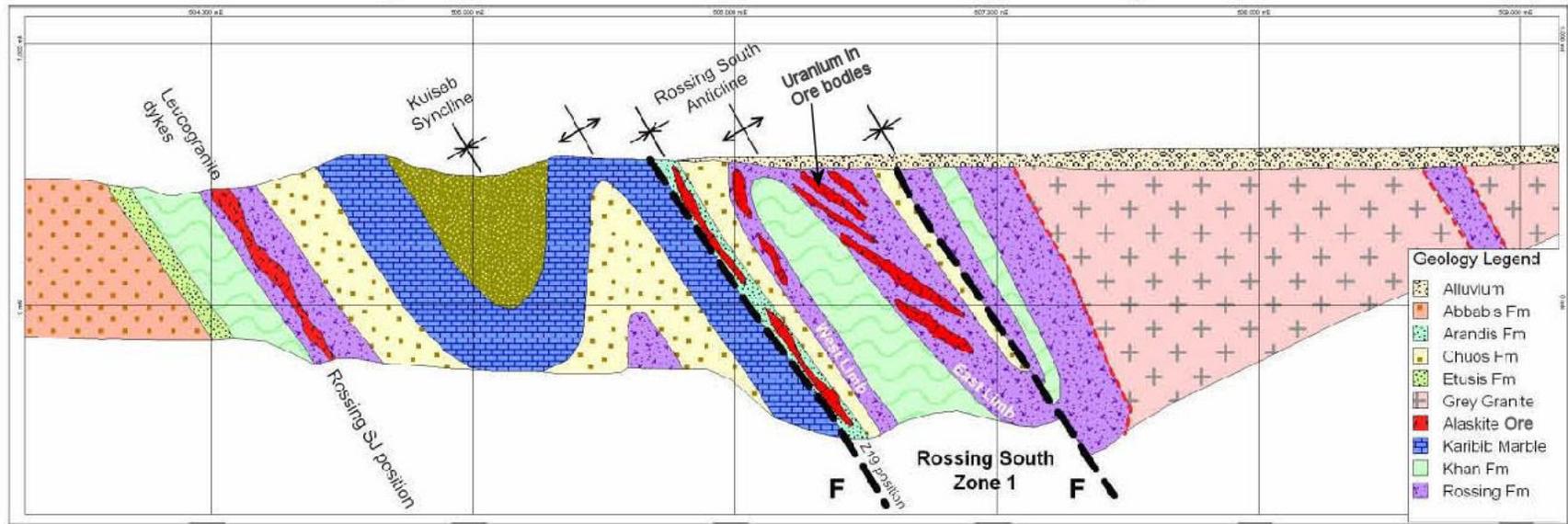


Figure 8

granite-monzonite deposit types, magmatic differentiation with uranium retained in late-stage phases is favoured. The content of U, Th, REE, and other metals in the various granitic facies is considered to be a function of their original abundance in the precursor metasediments.

## **9 EXPLORATION**

The following is a description of the exploration activities completed on the Way Lake property to date by JNR.

### **2004:**

JNR staked the original three claims over the Hook Lake showing (Figure 3) and carried out a limited prospecting and geological mapping program on the Way Lake property. This work covered the Hook, Big Sandy, Beckett, and Alexander Lake areas on claim numbers S110198, S110199, S107395 and S107396. The most significant result (40.1% U<sub>3</sub>O<sub>8</sub>) was obtained from the Hook Lake showing, while elevated uranium values were obtained in all of the other examined areas (Bradley, 2007).

### **2005:**

Fugro Airborne Surveys completed a multi-sensor regional geophysical survey for the Geological Survey of Canada that included the Fraser Lakes area. The gamma-ray spectrometric survey indicated several anomalies over the Fraser Lakes and surrounding areas (Bradley, 2007).

### **2006:**

Geotech Ltd. flew 5492.4 line kilometers of helicopter-borne VTEM and magnetics over the Way Lake property for JNR Resources Inc. The survey was successful in identifying more than 65 kilometers of arcuate conductors in the southern portion of the property, including the Fraser Lakes area. These conductors are interpreted to be folded and faulted in several locations (Bradley, 2007).

### **2007:**

During the 2007 winter season, elevated uranium values were intersected in four diamond drill holes completed at Hook Lake. Four small grids were cut at Walker River, Walker River South, Hook Lake and South Hook Lake. JNR carried out ground HLEM, VLF and magnetics over the four grids. Significant conductors were confirmed on the Walker River and Walker River South grids by these ground surveys on claims S-110156 and S-110157. An additional detailed helicopter-borne VTEM survey was carried out over the northernmost claims (Bradley, 2007a, Bradley, 2008; Bradley 2008a).

A helicopter-supported diamond drilling program was carried out during the summer of 2007. The drilling program consisted of ten diamond drill holes, totaling 1,798 meters. Eight of the holes were drilled on the Hook Lake occurrence and two holes tested the newly discovered West Way showing (Figure 3). Elevated uranium values and anomalous pathfinders including As, Co, Mo, Pb and B associated with brittle fracturing and/or ductile brittle shearing were intersected in several of these holes (Bradley, 2007a).

Helicopter-supported prospecting was completed over a large proportion of the property and a total of 446 samples were collected. Three new uranium prospects were identified at West Way, Nob Hill, and EWA, in the northwestern, central and southwestern areas of the property respectively (Figure 3). The most significant results came from the West Way showing in the northern portion of the property where grab samples collected from an outcropping shear zone with actinolite, yellow uranium oxide, and molybdenite/graphite returned values of 0.072 to 0.475 wt% U<sub>3</sub>O<sub>8</sub>. These grab samples also returned anomalous levels of pathfinder elements such as As (up to 46.3 ppm), Co (up to 172 ppm), Mo (up to 6670 ppm), Pb (up to 1480 ppm), and B (up to 267 ppm) (Bradley, 2007a).

The Nob Hill showing is located in the east-central part of the property on claim S-110196. The mineralization discovered at this showing is vein-type and occurs within dilational zones. Grab samples returned values of 0.130 wt% and 0.141 wt% U<sub>3</sub>O<sub>8</sub> and up to 634 ppm Pb. The EWA showing is located near the south end of the property, over a strike length of approximately 85 meters. The uranium mineralization occurs within a 10 to 20 meter wide, northeast-trending, sheared pelitic unit accompanied by granitic inliers. Several grab samples were obtained from the shear zone and returned values of 0.064 to 0.492 wt% U<sub>3</sub>O<sub>8</sub> and up to 1300 ppm Pb. The best result was collected from the previously identified Hook Lake area, approximately 85 meters northwest of the 2006 discovery. The sample contained anomalous As (80.2 ppm), Bi (157 ppm), Mo (108 ppm), Pb (138,000 ppm), and U (487,000 ppm), along with anomalous rare earth elements (REES) (Bradley, 2007a).

#### **2008:**

During the summer of 2008 helicopter-supported prospecting and diamond drilling was carried out over the Way Lake property (Bradley, 2008; Bradley 2008a; Cutford, 2009). Ground prospecting was completed over the southern portion of the property and a total of 135 grab samples were collected. Forty-eight diamond drill holes totaling 11,985 metres tested the West Way, Hook Lake, Nob Hill and EWA showings. These included the Walker River and Walker River South targets as well as two newly discovered mineralized zones at Fraser Lakes A and B, where numerous mineralized outcrops were identified by prospecting. Highly anomalous uranium and pathfinder element values, accompanied by significant structural disruption, alteration and graphitic metapelitic lithologies were intersected in all of the areas tested by the drilling that summer. At the Fraser Lakes B over 70 individual outcrop occurrences of uranium mineralization were identified over an approximate 1.5 km long by 0.5 km wide area within an antiformal fold nose cut by an east-west dextral ductile-brittle cross-structure. Outcrop grab samples collected during prospecting from the Fraser B area returned values ranging from 0.038 to 0.453 wt% U<sub>3</sub>O<sub>8</sub>.

Three drill holes (WYL-08-524, 525 and 526) totaling 740.0 meters were completed at the end of the 2008 summer exploration program at Fraser Lakes B. These drill holes intersected individual uranium values of 0.012 to 0.552 wt% U<sub>3</sub>O<sub>8</sub>, over true widths of 0.5 to 1.0 meters, accompanied by highly anomalous levels of Cu, Co, Pb, Mo associated with structurally disrupted, and altered Wollaston Group graphitic pelitic gneisses, psammopelitic gneisses and pegmatites.

**2009:**

Diamond drilling was carried out between February 13 and March 30 by JNR. The drilling program consisted of 15 completed and four abandoned diamond drill holes, totaling 2,700 meters. This drilling took place at the Fraser Lakes Zone B showing. The mineralization encountered in these drill holes is associated with granitic pegmatites intruding Wollaston Group pelitic and graphitic pelitic gneiss and orthogneiss above the Archean granitic orthogneiss and is accompanied by brittle to brittle-ductile deformation and varying degrees of chlorite, clay mineral, and hematite alteration (Cutford and Billard, 2010).

**2010:**

Diamond drilling was carried out between February 8 and March 15 by JNR. The drilling program consisted of 14 completed diamond drill holes totaling 2772.6 meters (Gittings and Annesley, 2011). Eight of these drill holes totaling 1,463.0 meters were completed at Fraser Lakes Zone B with the remaining six holes totaling 1309.60 meters drilled along the T-Bone Lake Conductor (Figure 3).

**2011:**

Diamond drilling was carried out between March 13 and April 17 by JNR. The drilling program consisted of 10 diamond drill holes totaling 2,590.0 meters. This drilling was completed on the Fraser Lakes Zone B (WYL-11-68, 69, 70 and 71 totaling 1189.0 meters), Fraser Lakes North (WYL-11-73 and 74 totaling 436.0 meters) and along the T-Bone Lake Conductor (WYL-11-65, 66, 67 and 72 totaling 965.0 metres).

Multiple intervals of uranium and/or thorium (U-Th) mineralization were intersected in the four new holes (WYL-11-68, -69, -70, and -71) that tested Fraser Lakes Zone B on its east-northeast end. The better U-Th intersections occur in drill holes WYL-11-68, -70 and -71, and are accompanied by highly anomalous concentrations of base metals and rare earth element (REE) enrichment (Gittings and Annesley, 2011).

Anomalous radioactivity was intersected within a new area, Fraser Lakes North, located 5 kilometers northeast of Fraser Lakes Zone B. Drill holes WYL-11-73 and -74 yield low-grade, basement-hosted U-Th mineralization in graphitic pelitic gneisses and granitic pegmatites (Annesley, 2011).

## **10 DRILLING**

The following is a description of drilling completed on the Fraser Lakes Zone B to date. To the Authors' knowledge, there are no known drilling, sampling, or recovery factors that could materially impact the accuracy and reliability of the results.

### **10.1 2008 to 2011 Drilling**

A total of 32 diamond drill holes totaling 5,694 meters were drilled on the Fraser Lakes Zone B during the 2008 to 2011 period (Table 4). Dynamic Drilling of La Ronge, northern Saskatchewan was contracted for all of these drilling programs. All holes drilled on the Fraser Lakes B Zone during these programs recovered standard 47.6 mm NQ core for the entire depth. To date, drilling of this zone has identified an extensive area approximately 1,250 meters long by 650

meters wide of moderately dipping, multiple stacked uranium and thorium mineralized horizons, which are open to the southwest and east-northeast to a depth of at least 175 meters.

**Table 4 Fraser Lakes Zone B drilling summary.**

| <b>Drill Program</b> | <b>Number of holes drilled</b> | <b>Meters drilled</b> |
|----------------------|--------------------------------|-----------------------|
| 2008 (Summer)        | 3                              | 740                   |
| 2009 (Winter)        | 16                             | 2,175                 |
| 2010 (Winter)        | 10                             | 1,922                 |
| 2011 (Winter)        | 3                              | 858                   |
| <b>Total</b>         | <b>32</b>                      | <b>5,694</b>          |

## **10.2 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 UTM NAD 83 coordinate system. Drill holes from 2009 onwards (starting with WYL-09-40) were named in sequence starting with the project name WYL (Way Lakes), then the year, followed by sequential drill hole number. For example, WYL-09-40 was the first post-2008 hole drilled on the Fraser Lakes Zone B, and was drilled in 2009. Holes requiring a restart were assigned letters after the drill hole number to indicate the number of restarts, with A being one restart, B being two and so on. Hole restarts are a function of either a) exceeding the desired maximum deviation tolerances (measured from down hole orientation surveys); or b) abandoning due to set-up or rock conditions encountered.

## **10.3 Down Hole Orientation Surveys**

For all drill programs a Reflex EZ-Shot orientation tool was used for down hole surveying in single shot mode. The EZ-Shot has a typical error of  $\pm 0.5$  degrees for azimuth readings and  $\pm 0.2$  degrees for dip readings.

## **10.4 Geological Logging**

Since JNR began working on the Way Lake project in 2006 the geological logging protocols have been changed from Excel spreadsheets to drill log forms in Access. During the 2006-2011 drill programs the comprehensive logging sheets used contained drill collar information, written rock descriptions, hand held scintillometer readings, numeric alteration intensity, mineral percentages, structural measurements and sample information. The logging sheets were designed as part of an Access database which allowed for importing of the data into computer modelling software. All drill core has been logged by geologists onsite at the JNR core camp on the Way Lake property.

## **10.5 Geotechnical Logging**

The geotechnical information was recorded as part of the logging sheet described above and consists of total core recovery and RQD for each run. The logging sheets were designed as part of an Access database which allowed for importing of the data into computer modelling software.

## **10.6 Geophysical Logging**

### **Hand-held scintillometer**

During the 2009-2011 drilling programs at the Fraser Lakes Zone B, radioactivity from core was measured with a hand held Exploranium RS-125 Super gamma-ray spectrometer. The RS-125 unit uses a large (103 cm<sup>3</sup>), high sensitivity NaI detector crystal to measure incoming radiation and reads up to a maximum of 65,535 cps. For core with background levels of radiation, the maximum reading was recorded every two meters over the entire length. In mineralized zones, above 60 cps or 2x background, the maximum reading was recorded every 0.25 to 0.5 meter depending on the width of the radioactive zone. Spectrometer readings were recorded in the technical logging sheet for each drill hole.

### **Down hole radiometric surveys**

For the 2009-2011 drill programs, drill holes were surveyed with a Mount Sopris 2000 model winch, MGX console and gamma probe. The single NaI detector crystal gamma probe is connected to either a 200 m or 305 m Mount Sopris fibre optic winch and Matrix digital logging system with laptop. The gamma probe has an accuracy of  $\pm 1$  % of full scale and can be used in grades of up to 2.00 wt% equivalent U<sub>3</sub>O<sub>8</sub>.

## **10.7 Drill Core Photography**

Core photos were taken after the geological logging, geotechnical logging and sample mark-up were completed. Sets of three core boxes were placed on a stand in order from top to bottom and photographed together. Details of the core included in each photo (drill hole number, from – to depths and box numbers) were clearly marked on a whiteboard. The core was wet before being photographed as this generally allows subtle geological features or colours to be more easily discerned.

## **10.8 Drill Core Storage and Drill Hole Closure**

Once core photos and sample splitting were completed, metal tags inscribed with the drill hole number, box number and from / to meterage were stapled on the front of each core box. In the 2009 to 2011 drill programs each drill hole was placed into core racks at the Way Lake core logging camp to allow for easy access. Upon completion, each drill hole was cemented at 30 m depth to the top of bedrock regardless of whether or not it was mineralized. All drill holes had the casing removed once drilling was complete.

## 10.9 2008 Drilling

Three drill holes (WYL-08-524, 525 and 526) totaling 740.0 meters were completed at the end of the 2008 summer exploration program on the new prospecting discovery referred to as the Fraser Lakes Zone B. These drill holes intersected individual uranium values of 0.012 to 0.552 wt% U<sub>3</sub>O<sub>8</sub>, over widths of 0.3 to 1.0 meters, accompanied by anomalous levels of Cu (up to 1860 ppm), Pb (up to 1120 ppm) and Mo (up to 882 ppm). Associated alteration included clay, hematite, chlorite, sulphides, carbonate, intermittent silicification and biotite-rich patches in altered, fractured, and faulted granitic pegmatite sheets, dykes and veins. The radioactive granitic pegmatites cross-cut Wollaston Group graphitic pelitic gneisses and psammopelitic gneisses and Archean gneisses.

## 10.10 2009 Drilling

Diamond drilling was carried out between February 13 and March 30. The drilling program consisted of 15 completed (WYL-08-36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49 and 50) and four abandoned (WYL-09-36a, 38a, 43a and 49a) diamond drill holes, totaling 2,700 meters. This drilling was following up the three holes drilled at the end of the 2008 summer program.

Multiple intervals of uranium and/or thorium mineralization were intersected in several drill holes. This mineralization is accompanied by rare earth element enrichment and highly anomalous levels of pathfinder elements. Some of the better intersections (Appendix 1) occur in drill holes WYL-09-39, -41 and -50. At a grade cutoff of 0.029% U<sub>3</sub>O<sub>8</sub>, hole #39 returned seven mineralized intervals over a 30-meter down-hole length, including a 0.15-meter intercept of 0.166 wt% U<sub>3</sub>O<sub>8</sub> and 0.112 wt% thorium. The best result from hole #41 was 0.134 wt% U<sub>3</sub>O<sub>8</sub> and 0.77 wt% thorium over 1.0 meter, while the best result from hole #50 was 0.183 wt% U<sub>3</sub>O<sub>8</sub> and 0.062 wt% thorium over 1.0 meter. Hole WYL-09-46 returned multiple intervals of thorium mineralization including 0.109% thorium and 0.013 % U<sub>3</sub>O<sub>8</sub> over 7.0 meters. Highly anomalous concentrations of other metals are also present in a number of holes. Hole WYL-09-38 returned 0.117% copper, 0.056% nickel, 0.044% zinc, 0.068% molybdenum and 44 ppm uranium over 6.5 meters.

## 10.11 2010 Drilling

Diamond drilling was carried out between February 8 and March 15 by JNR. The drilling program was following up the 2009 drilling program and consisted of 14 completed drill holes totaling 2772.6 meters. Eight (WYL-10-51, 56, 57, 58, 61, 62, 63 and 64) of these drill holes totaling 1,463.0 meters were completed on the Fraser Lakes Zone B with the remaining six holes (WYL-10-52, 53, 54, 55, 59 and 60) totaling 1309.60 meters being drilled along the T-Bone Lake conductor.

Multiple intervals of uranium and/or thorium mineralization were intersected in six of the eight holes that tested the Fraser Lakes B Zone. The better intersections (Appendix 1) occur in drill

holes WYL-10-51, -58, -61, -62, and -64. Hole WYL-10-61 returned a grade of 0.057 wt%  $U_3O_8$  over 5 m., including 0.242 wt%  $U_3O_8$  over 0.5 m. WYL-10-58 returned ten uranium mineralized intervals over a 65 -meter downhole length, including a 5.50 meter interval of 0.026 wt%  $U_3O_8$ ; a 3.00 meter interval of 0.041  $U_3O_8$ ; a 1.00 meter interval of 0.041  $U_3O_8$  with 0.046 wt%  $ThO_2$ ; and a 0.50 meter interval of 0.209 wt%  $ThO_2$  with 0.20 wt%  $U_3O_8$ . Drill hole WYL-10-51 returned five mineralized intervals over a 50 meter down-hole length, including a 3.00 meter intercept of 0.0064 wt%  $U_3O_8$  that included 0.179%  $U_3O_8$  and 0.059 wt%  $ThO_2$  over 0.5 meters.

The six holes drilled along the T-Bone Lake Conductor intersected anomalous radioactivity and U mineralization in two of the holes (WYL-10-53 and 55).

## **10.12 2011 Drilling**

Diamond drilling was carried out between March 13 and April 17 by JNR. The drilling program was a follow up to the 2010 drilling program and consisted of 10 holes totaling 2,590.0 meters. This drilling was completed on the Fraser Lakes Zone B (WYL-11-68, 69, 70 and 71) totaling 1189.0 meters, Fraser Lakes North (WYL-11-73 and 74 totaling 436.0 meters) and along the T-Bone Lake conductor (WYL-65, 66, 67 and 72 totaling 965.0 meters).

Multiple intervals of uranium and/or thorium mineralization were intersected in four new holes (WYL-11-68, 69, 70 and 71) that tested Fraser Lakes Zone B on its east-northeast end. The better U-Th intersections occur in drill holes WYL-11-68, 70 and 71 (Appendix 1). To date, drilling of this zone has identified an extensive area approximately 1,250 meters long by 650 meters wide of moderately dipping, multiple stacked uranium and thorium mineralized horizons, which are open to the southwest and east-northeast to a depth of at least 175 meters.

Anomalous radioactivity was intersected within the Fraser Lakes North area. Drill holes WYL-11-73 and WYL-11-74 yielded low-grade, basement-hosted U-Th mineralization within graphitic pelitic gneisses and granitic pegmatites.

## **10.13 Drill Core Sampling for Geochemistry and $U_3O_8$ assay.**

The samples selected for analysis came from intervals of core that had count rates exceeding 60 to 70 counts per second (cps) which was effectively 2x the background radiation. Shoulder samples are collected above and below the identified mineralized areas in order to “close-off” the sample intervals. Sample widths are selected according to radiometric values, with individual samples varying in core length from 0.2 to 0.7 meters.

All reasonable efforts are made to ensure that splitting of the core is representative and that no significant sampling biases occur. Core recovery does not materially affect the reliability of the geochemical results, as geochemical results are not reported where core recovery is determined to be less than 95%. In cases where core recovery is not optimal, down-hole radiometric probe results are used for grade calculations. Probe results are presented as “grade equivalent”  $U_3O_8$  (e%). It should be noted that in a direct comparison of probe results versus geochemical

results (where core recovery is a minimum of 95%), probe results tend to return lower values than geochemical (“true”) grades. This is due to the methodology employed by the probe, and is widely acknowledged within the uranium industry.

## **11 SAMPLE PREPARATION, ANALYSES AND SECURITY**

The following is a description of sample preparation, analysis and security for the Fraser Lakes Zone B. The Authors believe the work to have been done within the guidelines of NI 43-101.

### **11.1 Sample Preparation**

The drilling 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 was split once geological logging, sample mark-up and photographing were completed. All drill core samples were marked out and split at the JNR splitting shack by JNR employees, put into 5 gallon sample pails and sealed and transported to La Ronge, northern Saskatchewan. The samples were then transported directly to SRC Geoanalytical Laboratories (“SRC”) located in Saskatoon Saskatchewan. Samples were prepared for analysis by SRC upon arrival. Beyond the marking, splitting and bagging conducted at the project site, JNR employees were not involved in sample preparation. 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.

Sample data were recorded in typical three-tag sample booklets. One tag was stapled into the core box at the start of the appropriate sample interval, one tag was placed into the sample bag and the final tag was retained in the sample booklet for future reference. For each sample, the date, drill hole number, project name and sample interval depths were noted in the sample booklet. The data were transcribed to an Access database and stored on the JNR data server. Sample summary files were checked for accuracy against the original sample booklets after the completion of each drill program. The digital sample files also contain alteration and lithology information.

All geochemical, assay and bulk density samples were split using a manual core splitter over the intervals noted in the sample booklet. Half of the core was placed in a plastic sample bag with the sample tag and taped closed with fibre tape. The other half of the core was returned to the core box in its original orientation for future reference. After the completion of each sample, the core splitter, catchment trays and table were cleaned of any dust or rock debris to avoid contamination. Samples were placed in sequentially numbered 5 gallon plastic pails. Higher grade samples were generally packed into the centre of each pail and surrounded by lower grade or unmineralized core in order to shield the radioactivity emitted.

All drill core samples were evenly and symmetrically split in half in order to try and obtain the most representative sample possible. Mineralized core samples which occur in drill runs with less than 95% core recovery are flagged for review prior to the resource estimation process. Core photos of the flagged samples are examined and individual samples showing a significant

amount of core loss within the interval are removed from the resource estimate in order to avoid including samples which may have assay grades artificially increased through the removal of lower-grade matrix material. Recovery through the mineralized zone is generally good however, and assay samples are assumed to adequately represent in situ uranium content.

All geochemical, assay and bulk density core samples were submitted to SRC. Samples are first dried and then sorted according to matrix (sandstone / basement) and then radioactivity level. Red line and '1 dot' samples are sent to the geoanalytical laboratory for processing while samples '2 dot' or higher (> 2,000 cps) are sent to a secure radioactive sample facility for preparation.

SRC is licensed by the Canadian Nuclear Safety Commission (CNSC) to safely receive, process and archive radioactive samples. The facility is ISO/IEC 17025:2005 accredited by the Standards Council of Canada. Core sample residues are retained at the SRC sample storage facility after being analysed.

Reference pulp samples were included with the samples from each drill hole for ICP-OES and uranium assay analysis. Duplicate samples were routinely analysed as part of the project's quality assurance / quality control (QA/QC) program (see Section 12.2 below). Results obtained for the QA/QC samples are compared with the original sample results to monitor data quality (Section 12.3).

## **11.2 Drill Core Geochemistry Analysis**

All geochemistry core samples have been analysed by the ICP1 package offered by SRC, which includes 62 elements determined by Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES), as shown in Tables 5 and 6. Boron analysis and uranium by fluorimetry (partial digestion) have also been conducted on all samples.

For partial digestion analysis, rock samples are crushed to 60% at -2 mm and a 100-200 g sub sample is split out using a riffler. The sub-sample is further crushed to 90% at -106 microns using a chrome steel grinding mill. The sample is then transferred to a plastic snap top vial. An aliquot of pulp is digested in a mixture of HNO<sub>3</sub>:HCl in a hot water bath for an hour before being diluted by 15 ml of deionised water. The samples are then analysed using a Perkin Elmer ICP-OES instrument (model DV4300 or DV5300). For total digestion analysis an aliquot of pulp is digested to dryness in a hot block digester system using a mixture of concentrated HF:HNO<sub>3</sub>:HClO<sub>4</sub>. The residue is then dissolved in 15 ml of dilute HNO<sub>3</sub> and analysed using the same instrument(s) as above.

Samples with low concentrations of uranium (<100 ppm) identified by the partial and/or total ICP analysis are also analysed by fluorimetry. After being analysed by ICP-OES, an aliquot of digested solution is pipetted into a 90% Pt, 10% Rh dish and evaporated. A NaF/LiF pellet is placed on the dish and fused on a special propane rotary burner then cooled to room temperature. The uranium concentration of the sample is then read using a Spectrofluorimeter. Uranium by fluorimetry has a detection limit of 0.1 ppm (total) or 0.02 ppm (partial).

### **11.3 Drill Core Assay Analysis**

Drill core samples from mineralized zones were sent to SRC for uranium assay. The laboratory offers an ISO/IEC 17025:2005 accredited method for the determination of  $U_3O_8$  wt% in geological samples. The detection limit is 0.001 wt%  $U_3O_8$ . Rock samples are crushed to 60% at -2 mm and a 100-200 g sub-sample is split out using a riffler. The sub-sample is further crushed to 90% at -106 microns using a standard puck and ring grinding mill. An aliquot of pulp is digested in a concentrated mixture of  $HNO_3:HCl$  in a hot water bath for an hour before being diluted by deionised water. Samples are then analysed by a Perkin Elmer ICP-OES instrument (model DV4300 or DV5300).

### **11.4 Drill Core Bulk Density Analysis**

Drill core samples collected for bulk density measurements were sent to SRC. Samples are first weighed as they are received and then submerged in deionised water and re-weighed. The samples are then dried until a constant weight is obtained. The sample is then coated with an impermeable layer of wax and weighed again while submersed in deionized water. Weights are entered into a database and the bulk density of each sample is calculated. Water temperature at the time of weighing is also recorded and used in the bulk density calculation. The detection limit for bulk density measurements by this method is 0.01 g/cm<sup>3</sup>.

## **12 DATA VERIFICATION**

The following is a description of data verification completed by JNR. All geological data has been reviewed and verified by the Authors as being accurate to the extent possible and to the extent possible all geologic information was reviewed and confirmed. The Authors did not conduct check sampling of the core. The Authors feel that the samples taken by JNR provide adequate and good verification of the data and the Authors believe the work to have been done within the guidelines of NI 43-101.

### **12.1 Down Hole Surveys**

There is no verification or repeat logging of down hole orientation surveys. Gamma probe surveys are recorded while going down hole and up hole, resulting in two survey files for each hole. The overall gamma probe up and down results can be compared to ensure that no spurious readings were recorded.

### **12.2 QA/QC of Geochemistry and Assay Samples**

Internal QA/QC was performed by SRC on the drill core samples from the Fraser Lakes Zone B. The in-house SRC QA/QC procedures involve inserting one to two quality control samples of known value with each new batch of 40 geochemical samples. Two reference standards are used by SRC on the Fraser Lakes Zone B drill core; BL2A and BL4A, which have concentrations of 0.502 and 0.147 wt%  $U_3O_8$ , respectively. All of the reference materials used by SRC on the Fraser Lakes Zone B drill core are certified and provided by CANMET Mining and Mineral Services.

An internal JNR QA/QC sampling program was initiated during the 2010 winter drill campaign at the Fraser Lakes Zone B. The internal QA/QC program was designed to independently provide confidence in the core sample geochemical results provided by the SRC. Since the U<sub>3</sub>O<sub>8</sub> assay values returned from SRC are used in the resource estimation process they therefore require a high degree of accuracy and precision. The internal QA/QC sampling program determines analytical precision through the insertion of sample duplicates and accuracy through the insertion of materials of “known” composition (reference material). Reference standards are inserted into the sample sequence as they were collected in the field and prep and pulp duplicates are taken off core samples that are already submitted, as follows:

- Prep and pulp duplicates: these were taken by the laboratory (SRC) at the clients' (JNR) request from already submitted core samples. Prep duplicates were split from the initial -2 mm crushed sample and pulp duplicates were split off the -106 micron pulp material (i.e. post-grinding). All duplicates are weighed and analysed separately.
- Reference samples: CANMET reference standard BL4A was routinely inserted into drill core shipments by JNR to SRC for U<sub>3</sub>O<sub>8</sub> assays.

### **12.3 Drill Core QA/QC Sample Results**

Results for the JNR internal standard BL4A are tabulated in Appendix 2. Values returned are all within one standard deviation (0.004 wt% U<sub>3</sub>O<sub>8</sub>) of the standards published value of 0.147 wt% U<sub>3</sub>O<sub>8</sub>. The average analysed value is 0.148 wt% U<sub>3</sub>O<sub>8</sub>, only 0.001 wt% higher than the expected value, representing a relative deviation of less than 1 % and indicating that the any bias is not significant.

The analytical results for the duplicate samples (Appendix 2) all indicate an acceptable level of repeatability.

## **13 MINERAL PROCESSING AND METALLURGICAL TESTING**

No mineral processing or metallurgical testing has been carried out on this project.

## **14 MINERAL RESOURCE ESTIMATE**

This resource estimate represents the first National Instrument (“NI”) 43-101 resource estimate completed on JNR’s Fraser Lakes Zone B. The resource estimate was commissioned by JNR and completed by GeoVector on the Property in 2012, the results of which were reported in a news release issued on August 13<sup>th</sup>, 2012 (filed on SEDAR). JNR reported an Inferred resource, at a cut-off grade of 0.01 % U<sub>3</sub>O<sub>8</sub>, totalling 6,960,681 lbs. of U<sub>3</sub>O<sub>8</sub> at an average grade of 0.030% with significant quantities of rare earth element oxides (REO), specifically La<sub>2</sub>O<sub>3</sub>, Ce<sub>2</sub>O<sub>3</sub>, Yb<sub>2</sub>O<sub>3</sub>, and Y<sub>2</sub>O<sub>3</sub>. To complete the resource GeoVector assessed the raw drill core database that was available from drill programs completed by JNR Resources in four drill campaigns conducted between 2008 and 2011 on the Property.

The Inferred Mineral Resource was estimated by Allan Armitage, Ph.D., P. Geol, of GeoVector Management Inc. Dr. Armitage is an independent Qualified Person as defined by NI 43-101. Practices consistent with CIM (2005) were applied to the generation of the resource estimate. There are no mineral reserves estimated for the Property at this time.

Inverse distance squared interpolation restricted to mineralized domains were used to estimate U<sub>3</sub>O<sub>8</sub>% and REO grades into the block model. Inferred mineral resources are reported in summary tables in Section 14.9 below, consistent with CIM definitions required by NI 43-101 (CIM, 2005).

#### **14.1 Drill File Preparation**

To complete the resource estimate on Zone B, GeoVector assessed the raw drill core database that was available from drill programs completed between 2008 and 2011 on the Property (Figures 9 and 10). GeoVector was provided with a database of 32 diamond drill holes (5,694 meters) with 1,283 assay values collected through 2011. The drill hole database included collar locations, down hole survey data, assay data, lithology data, down hole gamma data and specific gravity (“SG”) data. Preliminary 3D models of surfaces and solids representing key geological features were supplied by JNR.

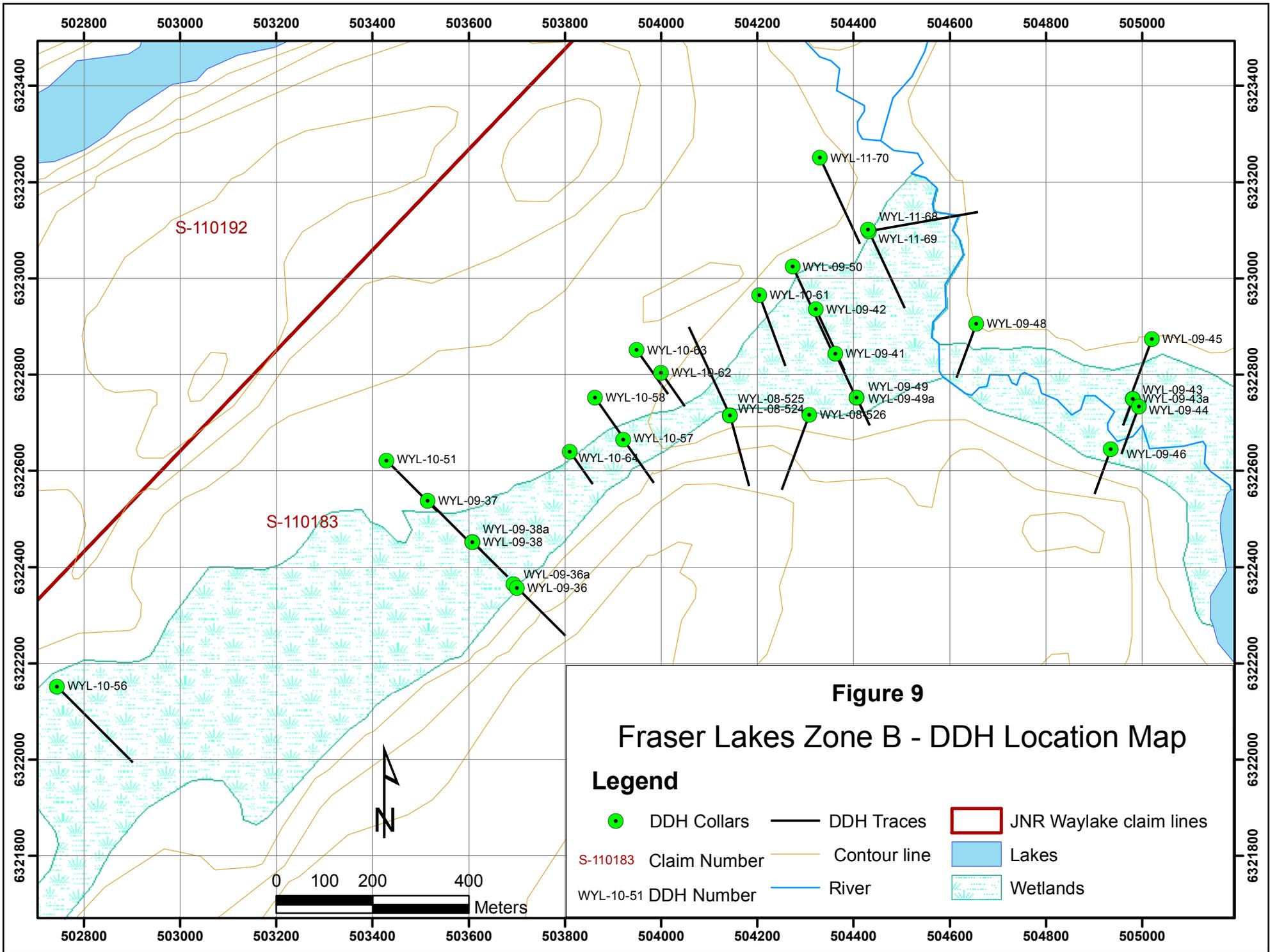
The database was checked for typographical errors in assay values and supporting information on source of assay values was completed. Sample overlaps and gapping in intervals were also checked. Verifications were also carried out on drill hole locations, down hole surveys, lithology, and topography information. Generally the database was in good shape and was accepted by GeoVector as is.

#### **14.2 Resource Modelling and Wireframing**

The Fraser Lakes Zone B uranium ± thorium and REO mineralization is associated with pegmatite dykes entrained in Wollaston Group pelitic and graphitic pelitic gneiss and orthogneiss above the Archean granite. Mineralization is accompanied by brittle to brittle-ductile deformation and varying degrees of clay, chlorite and hematite alteration. Two separate sub-parallel uranium resource models were constructed within pegmatite dykes.

For the 2012 resource, grade control models were built based on a cut-off grade of 0.01 % U<sub>3</sub>O<sub>8</sub> which involved visually interpreting mineralized zones from cross-sections using histograms of U<sub>3</sub>O<sub>8</sub>. Polygons of mineral intersections were made on each cross-section and these were wireframed together to create a contiguous resource models in Gemcom GEMS 6.3 software. The modeling exercise provided broad controls of the dominant mineralizing direction.

The Zone B deposit is currently defined by 24 drill holes intersecting uranium mineralization. The drill holes are spaced primarily 75 to 250 meters apart along a strike length of approximately 1,400 meters. The drill holes tested mineralization to a vertical depth up to 175 meters. The Zone B body trends roughly 240° and dips approximately 30° to the north (Figures 11 and 12). Mineralization varies in thickness from 2 meters to over 20 meters.









**Table 5 Summary of the drill hole composite data from within the Zone B resource model.**

| Zone B resource Composite Values | U2O3 (%) | THO2 (%) | LA2O3 (%) | CE2O3 (%) | PR2O3 (%) | ND2O3 (%) | SM2O3 (%) | GD2O3 (%) | HO2O3 (%) | ER2O3 (%) | YB2O3 (%) | Y2O3 (%) |
|----------------------------------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|
| Number of drill holes            | 23       | 23       | 23        | 23        | 23        | 23        | 23        | 23        | 23        | 23        | 23        | 23       |
| Number of samples                | 386      | 386      | 386       | 386       | 386       | 386       | 386       | 386       | 386       | 386       | 386       | 386      |
| Minimum value                    | 0.000    | 0.000    | 0.000     | 0.000     | 0.000     | 0.000     | 0.000     | 0.000     | 0.000     | 0.000     | 0.000     | 0.000    |
| Maximum value                    | 0.546    | 0.252    | 0.178     | 0.358     | 0.036     | 0.142     | 0.023     | 0.018     | 0.002     | 0.013     | 0.028     | 0.080    |
| Mean                             | 0.030    | 0.022    | 0.004     | 0.009     | 0.001     | 0.003     | 0.001     | 0.001     | 0.000     | 0.001     | 0.001     | 0.006    |
| Median                           | 0.018    | 0.010    | 0.002     | 0.004     | 0.000     | 0.002     | 0.000     | 0.000     | 0.000     | 0.000     | 0.000     | 0.003    |
| Variance                         | 0.002    | 0.001    | 0.000     | 0.001     | 0.000     | 0.000     | 0.000     | 0.000     | 0.000     | 0.000     | 0.000     | 0.000    |
| Standard Deviation               | 0.047    | 0.030    | 0.012     | 0.025     | 0.002     | 0.010     | 0.002     | 0.001     | 0.000     | 0.001     | 0.003     | 0.010    |
| Coefficient of variation         | 1.579    | 1.393    | 3.001     | 2.888     | 3.317     | 3.010     | 2.918     | 2.116     | 1.610     | 1.973     | 2.596     | 1.605    |
| 99 Percentile                    | 0.312    | 0.210    | 0.095     | 0.198     | 0.020     | 0.077     | 0.012     | 0.010     | 0.002     | 0.010     | 0.022     | 0.076    |

#### 14.4 Grade Capping

Based on a statistical analysis of the composite database from the resource model, it was decided that no capping was required on the composite populations to limit high values for uranium, thorium or the REO. A histogram of the data indicates a log normal distribution of all oxides with very few outliers within the database. Analysis of the spatial location of any high sample values and sample values proximal to them led the Authors to believe that the high values were legitimate parts of the population and that the impact of including these high composite values uncut would be negligible to the overall resource estimate.

#### 14.5 Specific Gravity

The specific gravity (SG) database supplied included 38 samples representing mineralized core from nine drill holes that intersect the resource models. The average U<sub>3</sub>O<sub>8</sub> grade of the 38 SG samples is 0.083 %, ranging from 0.022 to 0.404 % U<sub>3</sub>O<sub>8</sub>. SG analyses were completed at SRC Geoanalytical Laboratories on assay sample pulps by the Pycnometer Method. SG values of the 38 samples ranged from 2.37 t/m<sup>3</sup> to 2.99 t/m<sup>3</sup> and averaged 2.74 t/m<sup>3</sup>.

Based on an analysis of the SG values of samples from within the mineralized domains it was decided that an average SG value of 2.74 t/m<sup>3</sup> be used for the Zone B resource estimate.

#### 14.6 Block Modeling

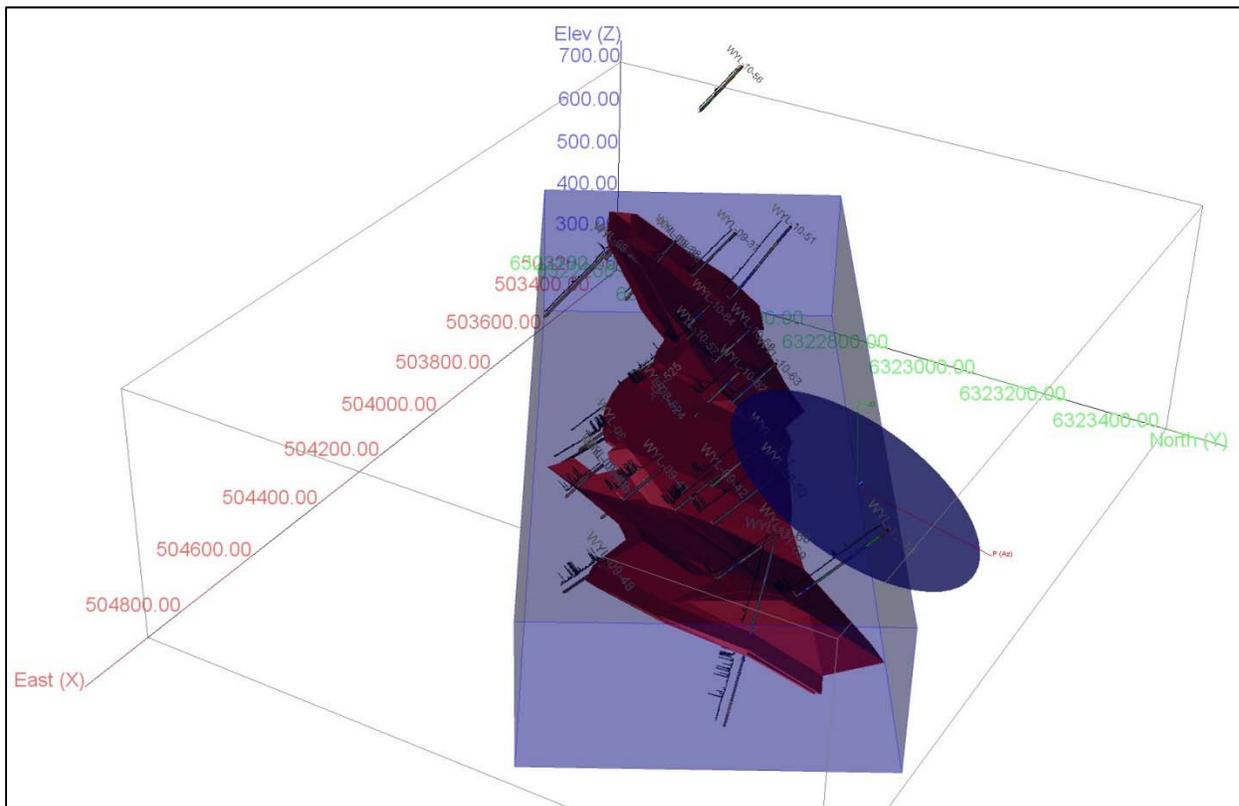
A block model was created for Zone B within UTM NAD83 Zone 13N space (Figure 13; Table 6) and an elevation of 525 meters above sea level. Block model size was designed to reflect the spatial distribution of the raw data – i.e. the drill hole spacing within the mineralized zone. The block model was constructed using 10 m x 1.5 m x 1.5 m blocks in the x, y, and z direction respectively. Grades for U<sub>3</sub>O<sub>8</sub> were interpolated into the blocks by the inverse distance squared (ID2) method using a minimum of 2 and maximum of 12 composites to generate block grades in

the Inferred category. In addition to  $U_3O_8$ , grades for  $ThO_2$  and REO, including  $La_2O_3$ ,  $Ce_2O_3$ ,  $Yb_2O_3$ , and  $Y_2O_3$  have been interpolated into the blocks.

Due to the lack of composite data, a 3D semi-variography analysis of mineralized points within the resource model did not effectively design an acceptable search ellipse. As a result, a search ellipse was interpreted based on drill hole (Data) spacing, and orientation and size of the resource model. The long axis of the search ellipses was oriented to reflect the observed preferential long axis (geological trend) of the resource model (Figure 13). For the Zone B resource the size of the search ellipse was set at 250 x 250 x 4 in the X, Y, Z direction. The short Z direction reflects the thickness of the two separate sub-parallel uranium resource models.

The Principal azimuth of the search ellipse is oriented at  $335^\circ$  and the Principal dip is oriented at  $-27^\circ$  (Table 6). The intermediate azimuth is oriented at  $245^\circ$ .

**Figure 13** Isometric view looking southwest shows the Zone B resource block model, resource model, drill holes and search ellipse.



**Table 6 Block model geometry and search ellipse orientation.**

| Block Model              | Fraser Lakes Zone B      |         |     |
|--------------------------|--------------------------|---------|-----|
|                          | X                        | Y       | Z   |
| Origin (NAD83, Zone 13N) | 503590                   | 6322130 | 525 |
| # of Blocks              | 150                      | 410     | 190 |
| Block Size               | 10                       | 1.5     | 1.5 |
| Rotation                 | 30°                      |         |     |
| Search Type              | Ellipsoid                |         |     |
| Principal Azimuth        | 335°                     |         |     |
| Principal Dip            | -27°                     |         |     |
| Intermediate Azimuth     | 245°                     |         |     |
| Anisotropy X             | 250                      |         |     |
| Anisotropy Y             | 250                      |         |     |
| Anisotropy Z             | 4                        |         |     |
| Interpolation            | Inverse Distance 2 (ID2) |         |     |
| Min. Samples             | 2                        |         |     |
| Max. Samples             | 12                       |         |     |

#### 14.7 Model Validation

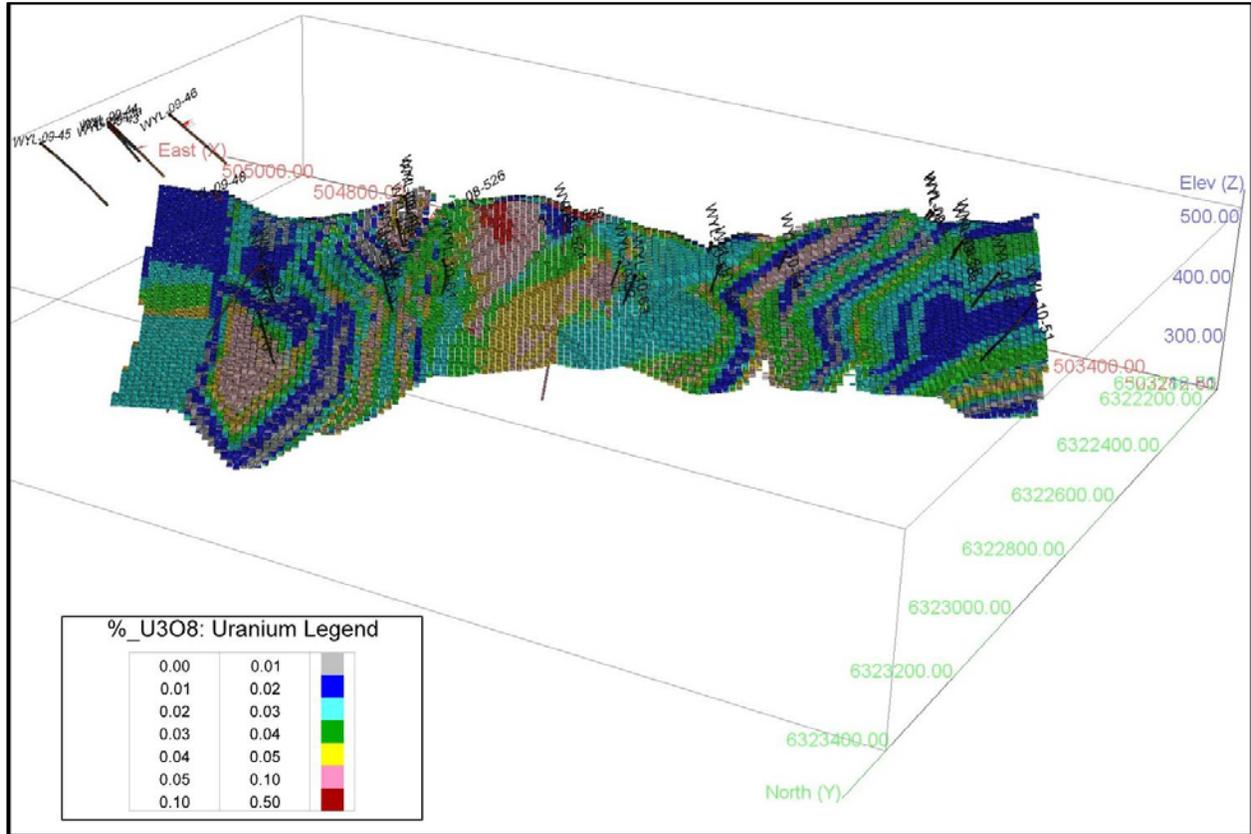
The total volume of the blocks in the resource model, at a 0 cut-off grade value compared to the volume of the resource model was essentially identical. The size of the search ellipse and the number of samples used to interpolate grade achieved the desired effect of filling the resource models and very few blocks had zero grade interpolated into them.

Because ID<sup>2</sup> interpolation was used, the drill hole intersection grades would be expected to show good correlation with the modelled block grades. A visual check of block grades of uranium (Figures 14 and 15) as well as thorium and the REO data in 3D and on vertical section showed excellent correlation between block grades and drill intersections. The resource model is considered valid.

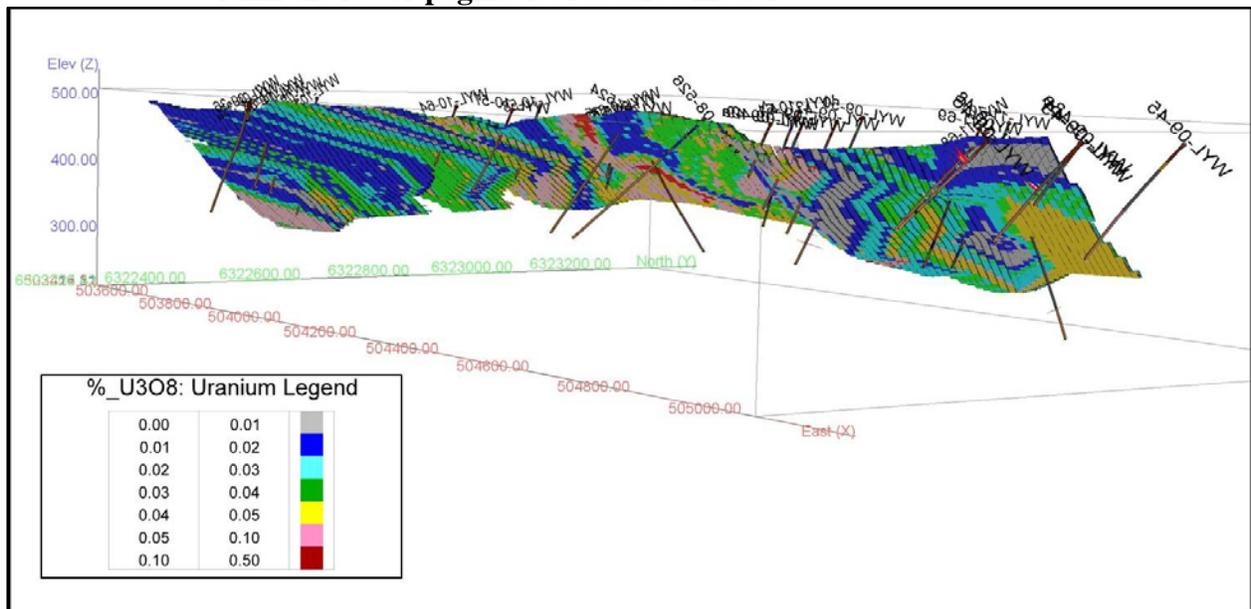
#### 14.8 Resource Classification

The Mineral Resource estimate is classified in accordance with the CIM Definition Standards (2005). The confidence classification is based on an understanding of geological controls of the mineralization, and the drill hole pierce point spacing in the Zone B resource area. The total resource in Zone B is classified as Inferred due to the sparse drill density (> 75 meter) throughout the resource area.

**Figure 14** Isometric view looking southeast shows the Zone B uranium resource blocks within the upper pegmatite resource model.



**Figure 15** Isometric view looking northwest shows the Zone B uranium resource blocks within the lower pegmatite resource model.



## 14.9 Resource Reporting

The grade and tonnage estimates contained herein are classified as Inferred Resource given CIM definition Standards for Mineral Resources and Mineral Reserves (2005). As such, it is understood that:

### Inferred Mineral Resource:

- An ‘Inferred Mineral Resource’ is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.

Due to the uncertainty that may be attached to Inferred Mineral Resources, it cannot be assumed that all or any part of an Inferred Mineral Resource will be upgraded to an Indicated or Measured Mineral Resource as a result of continued exploration. Confidence in the estimate is insufficient to allow the meaningful application of technical and economic parameters or to enable an evaluation of economic viability worthy of public disclosure. Inferred Mineral Resources must be excluded from estimates forming the basis of feasibility or other economic studies.

GeoVector has estimated a range of Inferred resources at various U<sub>3</sub>O<sub>8</sub> cut-off grades (COG) for the Zone B resource models (Table 7). However it was assumed based on likely economic parameters that a COG of 0.01% U<sub>3</sub>O<sub>8</sub> would be appropriate for mineral resource reporting. Using a base case COG of 0.01% U<sub>3</sub>O<sub>8</sub>, GeoVector has defined an Inferred resource totalling 6.96 Mlbs of U<sub>3</sub>O<sub>8</sub> within 10.4 million tonnes at an average grade of 0.030% U<sub>3</sub>O<sub>8</sub>, with significant quantities of rare earth element oxides (REO), specifically La<sub>2</sub>O<sub>3</sub>, Ce<sub>2</sub>O<sub>3</sub>, Yb<sub>2</sub>O<sub>3</sub>, and Y<sub>2</sub>O<sub>3</sub>. The inferred resource also includes a significant thorium component. Using the base case COG of 0.01% U<sub>3</sub>O<sub>8</sub>, the Inferred resource includes 5.34 Mlbs of ThO<sub>2</sub> at an average grade of 0.023%.

**Table 7 Resource estimate for the Zone B resource models.**

| Cut-off Grade | Tonnes            | U3O8 (%)     |                  | ThO2 (%)     |                  | La2O3 (%)    |                | Ce2O3 (%)    |                | Yb2O3 (%)    |                | Y2O3 (%)     |                  |
|---------------|-------------------|--------------|------------------|--------------|------------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|------------------|
|               |                   | Grade        | Lbs              | Grade        | Lbs              | Grade        | Lbs            | Grade        | Lbs            | Grade        | Lbs            | Grade        | Lbs              |
| <0.01%        | 12,939,722        | 0.025        | 7,106,393        | 0.019        | 5,503,454        | 0.003        | 749,376        | 0.005        | 808,513        | 0.001        | 329,845        | 0.006        | 1,734,571        |
| <b>0.01%</b>  | <b>10,354,926</b> | <b>0.030</b> | <b>6,960,681</b> | <b>0.023</b> | <b>5,339,219</b> | <b>0.003</b> | <b>681,325</b> | <b>0.006</b> | <b>895,077</b> | <b>0.001</b> | <b>304,762</b> | <b>0.007</b> | <b>1,619,017</b> |
| 0.02%         | 7,247,689         | 0.037        | 5,948,018        | 0.028        | 4,549,843        | 0.003        | 478,275        | 0.006        | 749,829        | 0.002        | 248,278        | 0.008        | 1,295,283        |
| 0.03%         | 4,248,266         | 0.046        | 4,275,145        | 0.034        | 3,164,930        | 0.003        | 281,423        | 0.006        | 535,677        | 0.002        | 165,658        | 0.009        | 824,093          |
| 0.04%         | 2,212,182         | 0.056        | 2,744,506        | 0.042        | 2,047,875        | 0.003        | 147,628        | 0.005        | 323,996        | 0.002        | 107,082        | 0.011        | 512,639          |
| 0.05%         | 1,030,273         | 0.069        | 1,576,073        | 0.047        | 1,058,855        | 0.003        | 66,623         | 0.006        | 200,503        | 0.001        | 26,439         | 0.008        | 188,375          |

#### **14.10 Disclosure**

GeoVector does not know of any environmental, permitting, legal, title, taxation, socio-economic, marketing or political issue that could materially affect the Mineral Resource Estimate. In addition GeoVector does not know of any mining, metallurgical, infrastructural or other relevant factors that could materially affect the Mineral Resource estimate.

#### **15 MINERAL RESERVE ESTIMATE**

This is beyond the scope of this report.

#### **16 MINING METHODS**

This is beyond the scope of this report.

#### **17 RECOVERY METHODS**

This is beyond the scope of this report.

#### **18 PROJECT INFRASTRUCTURE**

This is beyond the scope of this report.

#### **19 MARKET STUDIES and CONTRACTS**

This is beyond the scope of this report.

#### **20 ENVIRONMENTAL STUDIES, PERMITTING and SOCIAL or COMMUNITY IMPACT**

This is beyond the scope of this report.

#### **21 CAPITAL and OPERATING COSTS**

This is beyond the scope of this report.

#### **22 ECONOMIC ANALYSIS**

This is beyond the scope of this report.

#### **23 ADJACENT PROPERTIES**

There are no properties immediately adjacent to the Way Lake uranium project which currently have mineral resources. The closest uranium deposit to the Way Lake uranium project is Key Lake, 55 kilometers to the west. This deposit is considered a prime example of an unconformity-

type uranium deposit (Hoeve and Sibbald, 1978). The Key Lake deposits were discovered in 1975 and mined from 1981 to 1987. In 1997 the open pit was converted to a tailing-management facility to hold the McArthur River tailings. Milling of Key Lake ore continued until 1999 at which time the mill was converted to process ore from the McArthur River uranium deposit (Saskatchewan Geological Survey, 2003).

## **24 OTHER RELEVANT DATA AND INFORMATION**

There is no other relevant data or information available that is necessary to make the technical report understandable and not misleading. To the Authors' knowledge, there are no significant risks and uncertainties that could reasonably be expected to affect the reliability or confidence in the exploration information or mineral resource.

## **25 INTERPRETATION AND CONCLUSIONS**

JNR has been exploring the Way Lake property since 2004, targeting a low-grade / high-tonnage granitic intrusion hosted U-Th-REO deposit. Exploration undertaken on the Way Lake property has mostly involved airborne and ground geophysics, multi-phase diamond drill campaigns, detailed geochemical sampling of drill core, and ground based prospecting and geochemical sampling. Over 20,000 m of core has been drilled on the property over five winter drill programs from 2007 to 2011. With each subsequent drill program an increasingly detailed understanding of the property geology has developed.

GeoVector Management Inc. (“GeoVector”) was contracted by JNR to complete an initial resource estimate for the Fraser Lakes B Zone and to prepare a technical report on the resource estimate in compliance with the requirements of NI 43-101. Using a base case cut-off grade (COG) of 0.01%  $U_3O_8$ , the Fraser Lakes B Zone deposit is currently estimated to contain an Inferred resource totalling 6,960,681 lbs of  $U_3O_8$  within 10,354,926 tonnes at an average grade of 0.030%  $U_3O_8$ . There are also significant quantities of rare earth element oxides (REO), specifically  $La_2O_3$ ,  $Ce_2O_3$ ,  $Yb_2O_3$ , and  $Y_2O_3$ . The inferred resource also includes a significant thorium component. Using the base case COG of 0.01%  $U_3O_8$ , the Inferred resource includes 5,339,219 lbs of  $ThO_2$  at an average grade of 0.023%.

The resource estimate is categorized as Inferred as defined by the Canadian Institute of Mining and Metallurgy guidelines for resource reporting. Mineral resources do not demonstrate economic viability, and there is no certainty that these mineral resources will be converted into mineable reserves once economic considerations are applied.

It is expected that results of the upcoming 2012 exploration program will define additional resources at Fraser Lakes B Zone, establish the potential for extension of the mineralized zone to the east and west of the currently defined deposit, and establish the potential for mineralization in other target areas identified on the property based on geophysics. In addition, further interpretation of geochemical and assay data in conjunction with geological and structural analysis will improve the effectiveness of targeting for future drill programs.

## 26 RECOMMENDATIONS

An extensive, multi-phase exploration program is recommended for the Way Lake Uranium Project with priorities as follows:

- Infilling and extending along strike and at depth the mineralized corridor defined by the Fraser Lakes Zone B.
- Further exploration drilling on the Fraser Lakes Zone A, Fraser Lakes North and T-Bone Lake targets.
- Airborne gravity over the southern half of the Way Lake property to define any deep seated structural features that may be associated with the localization of U-Th-REO mineralization.
- Further geochemical sampling of drill core (i.e. PIMA and WRA to more clearly define geochemical vectors for location of mineralization.
- Select representative samples from the reject portion of the drill core samples stored at SRC in order to complete a preliminary assessment of the metallurgical characteristics of the of the Fraser Lakes Zone B mineralization.
- Start baseline environmental surveys.

Total cost of the recommended work program is estimated at approximately CAD \$6.072 million and includes contingency and administrative costs.

| <b>Activity</b>                                   | <b>Estimated Cost CAD \$</b> |
|---------------------------------------------------|------------------------------|
| Diamond Drilling (10,000m @ \$400/m all up costs) | \$4,000,000                  |
| Geophysics (Airborne Gravity)                     | \$ 400,000                   |
| Metallurgy                                        | \$ 50,000                    |
| U–Th Assays & Geochemistry (Pima and WRA)         | \$ 50,000                    |
| Baseline Environmental                            | \$ 100,000                   |
| SubTotal                                          | \$4,600,000                  |
| Admin (10%)                                       | \$ 460,000                   |
| SubTotal                                          | \$5,060,000                  |
| Contingency (20%)                                 | \$1,012,000                  |
| <b>Total</b>                                      | <b>\$6,072,000</b>           |

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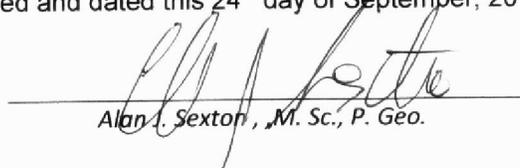
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## QP CERTIFICATE – ALAN SEXTON

To Accompany the Report titled “Technical Report on the Resource Estimate on the Way Lake Uranium Project, Fraser Lakes Zone B, Saskatchewan, Canada”, dated September 24<sup>th</sup>, 2012 (the “Technical Report”).

I, Alan J. Sexton, M. Sc., P. Geo. of 41 Barrhaven Crescent, Nepean, Ontario, hereby certify that:

1. I am currently a consulting geologist with GeoVector Management Inc., 10 Green Street Suite 312 Ottawa, Ontario, Canada K2J 3Z6
2. I am a graduate of Saint Mary's University having obtained the degree of Bachelor of Science – Honours in Geology in 1982.
3. I am a graduate of Acadia University having obtained the degree of Masters of Science in Geology in 1988.
4. I have been employed as a geologist for every field season (May – October) from 1979 to 1984. I have been continuously employed as a geologist since May of 1985.
5. I have been involved in mineral exploration for gold, silver, copper, lead, zinc, nickel, uranium and diamonds in Canada and the United States at the grass roots to advanced exploration stage, including resource estimation since 1979.
6. I am a member of the Association of Professional Geoscientists of Ontario (APGO) and use the title of Professional Geologist (P. Geo.).
7. 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 of my professional association and past relevant work experience, I fulfill the requirements to be a “Qualified Person” for the purposes of NI 43-101.
8. I am responsible for all sections of the Technical Report, except for Section 14.
9. I have no prior involvement with the property that is the subject of the Technical Report.
10. I am independent of JNR Resources Inc. as defined by Section 1.5 of NI 43-101.
11. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
12. I have read NI 43-101 and Form 43-101F1 (the “Form”), and the Technical Report has been prepared in compliance with NI 43-101 and the Form.
13. Signed and dated this 24<sup>th</sup> day of September, 2012 at Nepean, Ontario.

  
Alan J. Sexton, M. Sc., P. Geo.

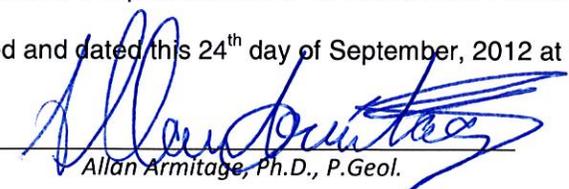


## QP CERTIFICATE – ALLAN ARMITAGE

To Accompany the Report titled “Technical Report on the Resource Estimate on the Way Lake Uranium Project, Fraser Lakes Zone B, Saskatchewan, Canada”, dated September 24th, 2012 (the “Technical Report”).

I, Allan E. Armitage, Ph. D., P. Geol. of #35, 1425 Lamey’s Mill Road, Vancouver, British Columbia, hereby certify that:

1. I am currently a consulting geologist with GeoVector Management Inc., 10 Green Street Suite 312 Ottawa, Ontario, Canada K2J 3Z6
2. I am a graduate of Acadia University having obtained the degree of Bachelor of Science – Honours in Geology in 1989.
3. I am a graduate of Laurentian University having obtained the degree of Masters of Science in Geology in 1992.
4. I am a graduate of the University of Western Ontario having obtained a Doctor of Philosophy in Geology in 1998.
5. I have been employed as a geologist for every field season (May – October) from 1987 to 1996. I have been continuously employed as a geologist since March of 1997.
6. I have been involved in mineral exploration and resource modeling for gold, silver, copper, lead, zinc, nickel, uranium and diamonds in Canada, Mexico, Honduras, Bolivia, Chili, and the Philippines at the grass roots to advanced exploration stage, including resource estimation since 1991.
7. I am a member of the Association of Professional Engineers, Geologists and Geophysicists of Alberta and use the title of Professional Geologist (P.Geol.).
8. 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 of my professional association and past relevant work experience, I fulfill the requirements to be a “Qualified Person” for the purposes of NI 43-101.
9. I am responsible for section 14 “Mineral Resource Estimate” of the Technical Report.
10. I personally inspected the Property and drill core during a property visit on July 13<sup>th</sup>, 2012.
11. I have not had prior involvement with the property that is the subject of the Technical Report.
12. I am independent of JNR Resources Inc. as defined by Section 1.5 of NI 43-101.
13. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
14. I have read NI 43-101 and Form 43-101F1 (the “Form”), and the Technical Report has been prepared in compliance with NI 43-101 and the Form.
15. Signed and dated this 24<sup>th</sup> day of September, 2012 at Vancouver, British Columbia.

  
Allan Armitage, Ph.D., P.Geol.



**Appendix 1 Listing of Drill Holes Completed on the Fraser Lakes Zone B**

| HOLE-ID    | LOCATION X | LOCATION Y | LOCATION Z | LENGTH | AZ     | DIP |
|------------|------------|------------|------------|--------|--------|-----|
| WYL-08-524 | 504143.00  | 6322715.00 | 500.00     | 216.00 | 165.00 | -45 |
| WYL-08-525 | 504143.00  | 6322715.00 | 500.00     | 287.00 | 335.00 | -45 |
| WYL-08-526 | 504308.00  | 6322717.00 | 503.00     | 237.00 | 200.00 | -45 |
| WYL-09-36  | 503700.00  | 6322357.00 | 502.00     | 201.00 | 135.00 | -45 |
| WYL-09-36a | 503693.00  | 6322364.00 | 502.00     | 33.20  | 135.00 | -45 |
| WYL-09-37  | 503515.00  | 6322538.00 | 502.00     | 187.50 | 135.00 | -45 |
| WYL-09-38  | 503608.00  | 6322452.00 | 502.00     | 159.00 | 135.00 | -50 |
| WYL-09-38a | 503608.00  | 6322452.00 | 502.00     | 39.00  | 135.00 | -45 |
| WYL-09-41  | 504362.00  | 6322843.00 | 500.00     | 150.00 | 155.00 | -45 |
| WYL-09-42  | 504322.00  | 6322935.00 | 500.00     | 198.00 | 155.00 | -45 |
| WYL-09-43  | 504980.00  | 6322749.00 | 500.00     | 90.70  | 200.00 | -50 |
| WYL-09-43a | 504980.00  | 6322749.00 | 500.00     | 70.70  | 200.00 | -45 |
| WYL-09-44  | 504993.00  | 6322734.00 | 500.00     | 150.00 | 200.00 | -45 |
| WYL-09-45  | 505020.00  | 6322874.00 | 500.00     | 180.00 | 200.00 | -45 |
| WYL-09-46  | 504935.00  | 6322645.00 | 500.00     | 141.00 | 200.00 | -45 |
| WYL-09-48  | 504655.00  | 6322906.00 | 500.00     | 171.00 | 200.00 | -45 |
| WYL-09-49  | 504406.00  | 6322752.00 | 500.00     | 91.00  | 155.00 | -45 |
| WYL-09-49a | 504406.00  | 6322752.00 | 500.00     | 43.00  | 155.00 | -45 |
| WYL-09-50  | 504273.00  | 6323024.00 | 505.00     | 270.00 | 155.00 | -45 |
| WYL-10-51  | 503429.00  | 6322621.00 | 503.00     | 232.20 | 135.00 | -50 |
| WYL-10-52  | 502034.00  | 6322684.00 | 510.00     | 201.00 | 135.00 | -50 |
| WYL-10-54  | 502026.00  | 6322681.00 | 510.00     | 258.00 | 315.00 | -50 |
| WYL-10-56  | 502744.00  | 6322151.00 | 504.00     | 315.00 | 135.00 | -45 |
| WYL-10-57  | 503921.00  | 6322665.00 | 502.00     | 156.00 | 145.00 | -45 |
| WYL-10-58  | 503863.00  | 6322752.00 | 506.00     | 139.50 | 145.00 | -45 |
| WYL-10-61  | 504204.00  | 6322965.00 | 511.00     | 222.00 | 160.00 | -45 |
| WYL-10-62  | 504000.00  | 6322804.00 | 500.00     | 121.00 | 145.00 | -45 |
| WYL-10-63  | 503949.00  | 6322851.00 | 506.00     | 160.00 | 145.00 | -45 |
| WYL-10-64  | 503810.00  | 6322640.00 | 503.00     | 117.00 | 145.00 | -45 |
| WYL-11-68  | 504432.00  | 6323098.00 | 496.00     | 325.00 | 80.00  | -45 |
| WYL-11-69  | 504430.00  | 6323101.00 | 496.00     | 254.50 | 155.00 | -45 |
| WYL-11-70  | 504330.00  | 6323250.00 | 500.00     | 278.00 | 155.00 | -45 |

**Appendix 2: BL4A JNR Internal Reference Standard Data Table**

| Lab_Report  | Sample_ID | U3O8<br>wt% | Min   | Max   |
|-------------|-----------|-------------|-------|-------|
|             |           | wt %        |       |       |
| G-2008-1351 | BL4A      | 0.149       | 0.143 | 0.151 |
| G-2008-1351 | BL4A      | 0.15        | 0.143 | 0.151 |
| G-2008-1351 | BL4A      | 0.149       | 0.143 | 0.151 |
| G-2008-1351 | BL4A      | 0.148       | 0.143 | 0.151 |
| G-2008-1351 | BL4A      | 0.146       | 0.143 | 0.151 |
| G-2008-1351 | BL4A      | 0.15        | 0.143 | 0.151 |
| G-2008-1351 | BL4A      | 0.147       | 0.143 | 0.151 |
| G-2008-1351 | BL4A      | 0.146       | 0.143 | 0.151 |
| G-2009-263  | BL4a      | 0.148       | 0.143 | 0.151 |
| G-2009-263  | BL4a      | 0.149       | 0.143 | 0.151 |
| G-2011-635  | BL4A      | 0.146       | 0.143 | 0.151 |
| G-2011-635  | BL4A      | 0.145       | 0.143 | 0.151 |
| G-2011-637  | BL4A      | 0.148       | 0.143 | 0.151 |
| G-2011-637  | BL4A      | 0.149       | 0.143 | 0.151 |

**Appendix 2: BL4A JNR Duplicate Assay Data Tables**

| Sample_ID      | Hole_ID    | Year | U3O8<br>wt% |
|----------------|------------|------|-------------|
| WYL08524S-142  | WYL-08-524 | 2008 | 0.017       |
| WYL08525S-116  | WYL-08-525 | 2008 | 0.002       |
| WYL08526S-101  | WYL-08-526 | 2008 | 0.004       |
| WYL08526S-131  | WYL-08-526 | 2008 | 0.016       |
| WYL0937S-201   | WYL-09-37  | 2009 | 0.004       |
| WYL0939S-169   | WYL-09-39  | 2009 | 0.015       |
| WYL0941S-135   | WYL-09-41  | 2009 | 0.005       |
| WYL0941S-142   | WYL-09-41  | 2009 | 0.094       |
| WYL0941S-145   | WYL-09-41  | 2009 | 0.0005      |
| WYL0943S-114   | WYL-09-43a | 2009 | 0.044       |
| WYL0946S-160   | WYL-09-46  | 2009 | 0.019       |
| WYL0948S-171   | WYL-09-48  | 2009 | 0.021       |
| WYL0950S-112   | WYL-09-50  | 2009 | 0.015       |
| WYL0950S-121   | WYL-09-50  | 2009 | 0.041       |
| WYL0950S-141   | WYL-09-50  | 2009 | 0.024       |
| WYL0950S-146   | WYL-09-50  | 2009 | 0.05        |
| WYL-10-51-S120 | WYL-10-51  | 2010 | 0.019       |
| WYL-10-53-S102 | WYL-10-53  | 2010 | 0.055       |
| WYL-10-58-S116 | WYL-10-58  | 2010 | 0.002       |

|                 |           |      |        |
|-----------------|-----------|------|--------|
| WYL-10-58-S129  | WYL-10-58 | 2010 | 0.072  |
| WYL-10-58-S153  | WYL-10-58 | 2010 | 0.06   |
| WYL-10-61-S196  | WYL-10-61 | 2010 | 0.064  |
| WYL-10-64-S117  | WYL-10-64 | 2010 | 0.029  |
| WYL-10-64-S123  | WYL-10-64 | 2010 | 0.031  |
| WYL-11-69-101   | WYL-11-69 | 2011 | 0.0005 |
| WYL-11-69-122   | WYL-11-69 | 2011 | 0.039  |
| WYL-11-70-S-153 | WYL-11-70 | 2011 | 0.016  |
| WYL-11-70-S-161 | WYL-11-70 | 2011 | 0.038  |
| WYL-11-71S-147  | WYL-11-71 | 2011 | 0.028  |

| Sample_ID         | Hole_ID    | Year | U3O8<br>wt % |
|-------------------|------------|------|--------------|
| WYL08524S-142 R   | WYL-08-524 | 2008 | 0.016        |
| WYL08525S-116 R   | WYL-08-525 | 2008 | 0.002        |
| WYL08526S-101 R   | WYL-08-526 | 2008 | 0.004        |
| WYL08526S-131 R   | WYL-08-526 | 2008 | 0.016        |
| WYL0937S-201 R    | WYL-09-37  | 2009 | 0.004        |
| WYL0939S-169 R    | WYL-09-39  | 2009 | 0.016        |
| WYL0941S-135 R    | WYL-09-41  | 2009 | 0.004        |
| WYL0941S-142 R    | WYL-09-41  | 2009 | 0.093        |
| WYL0941S-145 R    | WYL-09-41  | 2009 | 0.0005       |
| WYL0943S-114 R    | WYL-09-43a | 2009 | 0.045        |
| WYL0946S-160 R    | WYL-09-46  | 2009 | 0.018        |
| WYL0948S-171 R    | WYL-09-48  | 2009 | 0.022        |
| WYL0950S-112 R    | WYL-09-50  | 2009 | 0.014        |
| WYL0950S-121 R    | WYL-09-50  | 2009 | 0.043        |
| WYL0950S-141 R    | WYL-09-50  | 2009 | 0.027        |
| WYL-10-51-S120 R  | WYL-10-51  | 2010 | 0.019        |
| WYL-10-53-S102 R  | WYL-10-53  | 2010 | 0.055        |
| WYL-10-58-S116 R  | WYL-10-58  | 2010 | 0.002        |
| WYL-10-58-S129 R  | WYL-10-58  | 2010 | 0.075        |
| WYL-10-58-S153 R  | WYL-10-58  | 2010 | 0.055        |
| WYL-10-61-S196 R  | WYL-10-61  | 2010 | 0.066        |
| WYL-10-64-S117 R  | WYL-10-64  | 2010 | 0.028        |
| WYL-10-64-S123 R  | WYL-10-64  | 2010 | 0.03         |
| WYL-11-69-101 R   | WYL-11-69  | 2011 | 0.0005       |
| WYL-11-69-122 R   | WYL-11-69  | 2011 | 0.038        |
| WYL-11-70-S-153 R | WYL-11-70  | 2011 | 0.018        |
| WYL-11-70-S-161 R | WYL-11-70  | 2011 | 0.036        |
| WYL-11-71S-147 R  | WYL-11-71  | 2011 | 0.029        |