

# Technical Report for the Radio Project, Northern Saskatchewan

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TECHNICAL REPORT FOR THE RADIO PROJECT NORTHERN SASKATCHEWAN



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# Glossary

l Inits	of Measure	
UIIIIU		

Annum (year)	а
Billion	В
Centimetre	cm
Day	d
Degree	0
Degrees Celsius	°C
Dollar (United States)	US\$
Dollar (Canadian)	Cdn\$
Hectare (10,000 m2)	ha
Kilometre	km
Kilovolt	kV
Metre	m
Microns	μm
Millimetre	mm
Million	М
Minute (plane angle)	'
Parts per million	ppm
Percent	%
Pound(s)	lb
Second (plane angle)	"
Three Dimensional	3D
Tonnes per day	t/d

#### Abbreviations and Acronyms

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Saskatchewan Mining Development Corporation	SMDC
Saskatchewan Research Council Geoanalytical Laboratories	SRC
Target Zones	TZ
Time Domain Electromagnetic	TDEM
Titan Uranium Inc	Titan
Transient EM	TEM
Triuranium octoxide	U3O8
Universal Transverse Mercator	UTM
Uranium	U
Very Low Frequency Electromagnetic	VLF or VLF-EM
Versatile Time Domain Electromagnetic	VTEM

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## 1 SUMMARY

#### 1.1 Scope of Work

This Technical Report has been prepared in accordance with the reporting standards and definitions prescribed by Canadian National Instrument 43-101 – Standards of Disclosure for Mineral Projects (NI 43-101).

This report titled "NI 43-101 Technical Report for the Radio Project, Northern Saskatchewan" with an effective date of August 19, 2016 was prepared for IsoEnergy Ltd. (IsoEnergy) in anticipation of IsoEnergy becoming a "reporting issuer" as defined under applicable Canadian securities laws and in respect of the Radio Property in Northern Saskatchewan (the Property), a "material property" of IsoEnergy.

#### 1.2 Property Description

The Radio Property consists of mineral claim S-113997. The claim covers 847 ha, and is located 8 km northnortheast of Points North Landing, Saskatchewan, in NTS 64L 05 and 74I 08 (Figure 1-1). The centre of the triangular-shaped property has approximate coordinates of 103° 58' 46" W, 58° 21' 24" N or UTM NAD83 Zone 13N 559500 m E, 6,468,000 m N. The Property is approximately 400 km north of La Ronge, Saskatchewan, the nearest major community, and 700 km north of Saskatoon, the closest large city in the province.

#### 1.3 Ownership

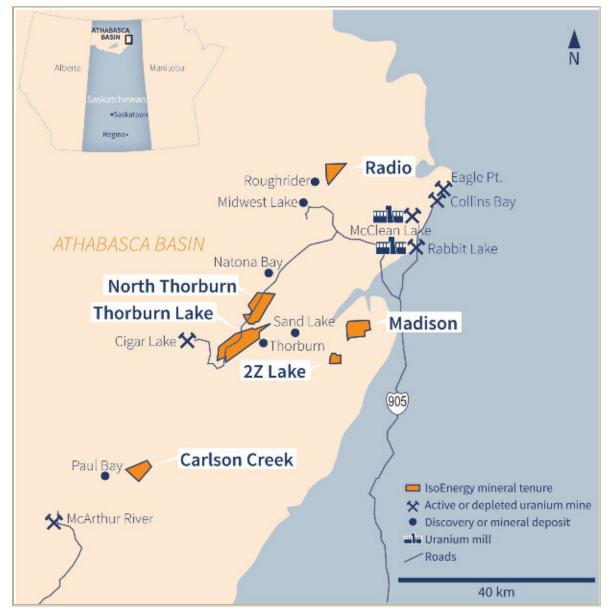
IsoEnergy's interest in the Property is derived from an option agreement (Option Agreement) dated December 5, 2011 (as amended), between NexGen (by assignment) and each of: M. Lederhouse, T. Young, and M. Mason (the Optionors). NexGen assigned its interest in the Radio Property and the Option Agreement (including the benefit of all cash payments and share issuances) to IsoEnergy. In order to exercise the option, IsoEnergy must incur a total of \$10,000,000 of expenditures on the Radio Property before May 31, 2017.

Upon IsoEnergy earning a 70% interest in the Radio Project, IsoEnergy and the Optionors will be deemed to have formed a joint venture with IsoEnergy having an initial 70% interest therein and the Optionors having an initial 30% interest. The Optionors' 30% interest shall be free carried until the commencement of commercial production after which all costs and expenses (other than those incurred in connection with an expansion in respect of which the Optionors shall be free carried) shall be *pro rata* to the parties' respective interest in the joint venture.



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## 1.4 History

The Radio Property and adjacent areas have been the target of exploration programs since the 1960s. This exploration has included airborne geophysical surveys (radiometric, magnetic, electromagnetic, and gravity), airborne geochemical surveys, ground geophysical surveys (VLF-EM, Turam, Magnetic, Gravity, HLEM, TDEM, PEM, and Resistivity) and other ground exploration surveys (radiometric survey, geological mapping, prospecting, geochemical and radon). This historical work was conducted by Numac Mining Ltd. (Numac), Saskatchewan Mining Development Corporation (SMDC), Cameco, and Asamera Oil Corp.



More recently, in April 2011, a Goldak Airborne Surveys high resolution magnetic gradiometer survey was completed which better defined the basement geology. A Geotech VTEM electromagnetic survey was also flown, which defined areas of weak basement conductivity worthy of additional exploration.

In 2012, Patterson Geophysics Ltd completed a DC Resistivity/Chargeability survey over the Property and MWH Geophysics completed a gravity survey over the Property. Living Sky Geophysics Inc. processed and interpreted the results.

## 1.5 Geology and Mineralization

The Radio Property lies at the eastern edge of the Athabasca Basin, a middle Proterozoic clastic basin containing a relatively undeformed sequence of unmetamorphosed clastic rocks, predominantly sandstones, named the Athabasca Group. These clastic rocks in the eastern half of the Athabasca basin lie unconformably on the highly deformed and metamorphosed rocks of the Hearne Craton of the Western Churchill Province of the Canadian Shield (Jefferson et al., 2007).

Magnetic survey data suggests that the Property is underlain by high magnetic intensity orthogneisses in the north half and corridors of low magnetic Wollaston Supergroup metasediments in the south half of the Property. There may also be metasediments in the very northwest part of the claim. Drilling within the Project has shown the unconformity to be between 160 m and 190 m below surface. Magnetic data show a number of basement structural zones trending east-west, east-northeast and to a lesser extent, north-northeast, northeast, northwest and north-south.

Of note is that the Radio Property lies in an area with numerous uranium deposits and zones of uranium mineralization within 10 km of the Property (Midwest, Midwest A, Roughrider Zones, Dawn Lake Zones, McClean Lake and J Zone). Exploration in the area has concentrated on drill testing "conventional" EM anomalies thought to represent conductive basement graphitic horizons.

## 1.6 Exploration Status

Exploration of the Radio Property is still at an early stage. Work completed to date consists of ground-based prospecting and geochemical sampling in the 1970s and 1980s, airborne surveys in 2011, and ground geophysical surveys in 2012. The area covered by the Radio Property was not explored between 1995 and 2009 as it was subject to Treaty Land Selection.

NexGen completed a nine hole, 3,473 m diamond drilling program in 2013. The exploration program was designed to explore for the presence of uranium or hydrothermal alteration associated with uranium deposits. While no anomalous radioactivity was encountered, diamond drilling successfully explained several of the geophysical targets (MacLeod LaFosse & Sykes, 2015). Interpretation of drill core observations, whole rock geochemical analyses and geophysical properties have helped characterize the lithologic units, alteration styles and structural controls, which will be of interest for future exploration programs.

## 1.7 Conclusions

The results of the historical exploration have in general been positive. Both geochemical and geophysical results along with diamond drilling show weak anomalies. The basement geology, as interpreted from the



magnetic data, is composed of Archean orthogneisses in the northern part of the Property, and Wollaston Supergroup metasediments in the rest. Structural zones interpreted from the magnetic and topographic data in the immediate vicinity of the Property have orientations similar to those that host mineralization on the adjacent properties.

The Radio Property warrants further exploration for unconformity-associated uranium mineralization.

#### 1.8 Recommendations

#### 1.8.1 Phase 1

An initial program of helicopter supported diamond drilling consisting of 5,060 m of drilling in 13 drill holes is recommended to test three main target areas.

It is also recommended that a program of surficial geochemistry consisting of soil sampling and radon emanometry, using the 2012 DC-resistivity grid be completed with a total of 360 soil samples to be collected on 100 m stations along lines spaced 200 m apart. Radon cups should be planted at each sample site.

The cost estimate for recommended work in Phase 1 is set forth below in Table 1-1.

#### Table 1-1: Phase 1 – Radio Exploration Program

Exploration and Development	Estimated Cost (Cdn\$)
Drilling (5,060m) to evaluate three main target areas	1,642,000
Surficial Geochemistry	40,000
Total	\$ 1,682,000

#### 1.8.2 Phase 2

A second phase exploration program is also recommended, focused on additional diamond drilling (11,700 m in 30 drill holes). Drill targets should consist of follow-up evaluations of the Phase 1 drilling results, surficial geochemistry anomalies and other targets based on new information and interpretations. Total Phase 2 expenditures should be approximately Cdn\$3.75 million. Phase 2 recommendations are conditional on the results of Phase 1.



## 2 INTRODUCTION AND TERMS OF REFERENCE

#### 2.1 Purpose

This Technical Report has been prepared in accordance with the reporting standards and definitions of National Instrument 43-101 – *Standards of Disclosure for Mineral Projects* (NI 43-101).

This report titled "Technical Report for the Radio Project, Northern Saskatchewan" with an effective date of August 19, 2016 was prepared for IsoEnergy Ltd. (IsoEnergy) in anticipation of IsoEnergy becoming a "reporting issuer" as defined under applicable Canadian securities laws and in respect of the Radio property in Northern Saskatchewan, a "material property" of IsoEnergy.

#### 2.2 Sources of Information

In preparing this report, the Qualified Person (QP), as defined in NI 43-101 reviewed exploration data available in the non-confidential assessment files of the Saskatchewan Ministry of Economy, technical publications of the Ministry and other organizations, results of the airborne and ground geophysical surveys carried out in 2011 and 2012, and diamond drilling conducted in 2013. The assessment files contained information on much of the mineral exploration that has been carried out on and in the area of the Property. The sources of information and data contained in this report or used in its preparation are set out in Section 19 of this report.

#### 2.3 Personal Inspection

Steve Blower, Vice President Exploration of IsoEnergy accompanied the author to a site visit carried out on August 18, 2016. The site visit was completed to obtain a general view of the Property, to determine if there were any obvious concerns and to review sites of previous exploration work on the Property. Additional information regarding the site visit is included in Section 12.2.



# 3 RELIANCE ON OTHER EXPERTS

In respect of legal matters in Sections 1.3, 4.3 and 4.4 of this Technical Report, the writer relied, in part, on a mineral disposition review letter dated August 5, 2016 prepared by McDougall Gauley LLP (Ledingham, 2016) and on the Mineral Administration Registry System Saskatchewan (MARS) accessed on August 8, 2016.

In respect of environmental matters referred to in Section 4.5 of this Technical Report, Mr. Maunula relied on statements by IsoEnergy made between August 5 to 15, 2016.



## 4 PROPERTY DESCRIPTION AND LOCATION

#### 4.1 Area and Location

The Radio Property consists of mineral claim S-113997. It covers 847 ha, and is located 8 km north-northeast of Points North Landing, Saskatchewan, in NTS 64L 05 and 74I 08 (Figure 1-1). The centre of the triangular-shaped property has approximate coordinates of 103O 58' 46" W, 58O 21' 24" N or UTM NAD83 Zone 13N 559500 m E, 6,468,000 m N. The Property is approximately 400 km north of La Ronge, Saskatchewan, the nearest major community, and 700 km north of Saskatoon, the closest large city in the province.

## 4.2 Nature of IsoEnergy's Interest in the Property

IsoEnergy's interest in the Property is derived from an option agreement (Option Agreement) dated December 5, 2011 (as amended), between NexGen (by assignment) and each of M. Lederhouse, T. Young, and M. Mason (the Optionors). NexGen assigned its interest in the Radio Property and the Option Agreement (including the benefit of all cash payments and share issuances) to IsoEnergy. In order to exercise the option, IsoEnergy must incur a total of \$10,000,000 prior to May 31, 2017.

Upon IsoEnergy earning a 70% interest in the Radio Property, IsoEnergy and the Optionors will be deemed to have formed a joint venture with IsoEnergy having an initial 70% interest therein and the Optionors having an initial 30% interest. The Radio Optionors' 30% interest shall be free carried until the commencement of commercial production after which all costs and expenses (other than those incurred in connection with an expansion in respect of which the Radio Optionors shall be free carried) shall be pro rata to the parties' respective interest in the joint venture.

IsoEnergy has not acquired the surface rights in respect of the Radio Property.

#### 4.3 Type of Mineral Tenure

Mineral disposition S-113997 was acquired by ground staking in 2009 by the Optionors. The claim has an effective date of September 1, 2009, and is in good standing until November 29, 2036.

S-113997 is subject to the Crown Minerals Act (Saskatchewan), and the Mineral Dispositions Regulations (Saskatchewan), which grant to the owner of a claim the right to explore for minerals. To maintain the Property in good standing, exploration on the Property is required, with annual expenditures of \$15/ha until the claim's 10<sup>th</sup> anniversary in 2019, after which annual expenditures increase to \$25/ha. Proof of expenditures and copies of reports and data are to be filed within 90 days of the applicable anniversary date. It is also possible to make cash payments in lieu of exploration work, but only for three consecutive years. Excess expenditures may be carried forward as assessment credit in future years. Except for exploration purposes, a mineral claim does not grant the holder the right to mine minerals. Under the Option Agreement, IsoEnergy is required to keep S-113997 in good standing during the term of the option.

A claim in good standing can be converted to a lease upon application and with the completion of a boundary survey. Leases are for a term of ten years and are renewable. A lease grants to the holder the exclusive right



to explore for, mine, recover, and dispose of any minerals within the lease lands. Annual expenditures are \$25/ha for years 1 to 10 of the lease, \$50/ha for years 11 to 20, and \$75/ha annually thereafter.

Any surface facilities and mine workings constructed would be located on Provincial lands. The right to use and occupy Provincial lands is acquired under a surface lease from the Province of Saskatchewan. A surface lease is for a maximum of thirty-three years and can be renewed. Annual expenditures for a lease are \$25/ha for the first 10 years, \$50 for the next ten years, and \$75 thereafter.

#### 4.4 Royalties

There are no known royalties, back-in rights, payments, or other agreements or encumbrances to which the Radio Property is subject except that pursuant to the Option Agreement: upon exercise of the option, the Optionors will have a 2% Net Smelter Return royalty (NSR) and a 2% Gross Over-Riding royalty (GORR) on gems and industrial diamonds recovered.

#### 4.5 Environmental Liabilities

The writer is not aware of any environmental liabilities on the Property. As little on-the-ground exploration has been recorded in the past except for the 2013 diamond drilling, it is probable that there have been no significant disturbances on the Property. No obvious disturbance was noted during the site inspection, except for cut lines for geophysical work, drill pads, drill roads and the NexGen core shack.

#### 4.6 Required Permits

In order to carry out the proposed exploration on the ground (including drilling) the following permits must be acquired:

- A general use permit, which lists all the rules and regulations to be followed
- A forest product permit if trees are to be cut
- A camp permit if there will be a camp on the Property
- A water use permit
- A drilling permit.

All of these permits have been obtained for the proposed exploration program

A review of the Ministry of Environment areas of endangered/threatened species and a review of archeological sites at the Heritage Conservation Branch is also required, but no permit is required.

There are no other significant factors and risks known to the author other than those noted in the report that may affect access, title, or the right or ability to perform work on the Property.



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

## 5.1 Accessibility

The Radio Property area is located in the Athabasca Basin of Northern Saskatchewan. Air access to the Property is by helicopter, with the nearest air base being at Points North Landing, less than 10 km from the claim. Points North Landing is also serviced by regular commercial flights from Saskatoon. An access road from Highway 905 to the Roughrider Property provides truck, ATV or snowmobile access to within 1 km of the Property. Points North Landing is on Highway 905 and is open year-round. La Ronge, a supply centre for northern Saskatchewan, is 440 km by road to the south.

#### 5.2 Climate

The climate is typical of mid-latitude continental areas. Temperatures range from greater than +30°C in the summer to colder than -40°C during the winter. Winters are long and cold, with mean monthly temperatures of below freezing for seven months. Annual precipitation is approximately 0.5 m, with half of this as rain during the warmer months, and the remainder as 70 cm to 100 cm of snow. Freeze-up normally starts in October and breakup in April. Exploration can be carried out year-round, although ground access is affected by freeze-up and breakup.

## 5.3 Topography, Elevation, and Vegetation

The Radio Property area lies in an area of ground moraine, hummocky moraine, and muskeg. Topography is of low relief, perhaps 25 m across the Property, ranging from 465 to 490 m above sea level (masl). Tree cover is sparse to moderate, with jackpine on the higher, drier ground, and small black spruce in the poorly-drained lower ground.

#### 5.4 Local Resources and Infrastructure

La Ronge is the nearest community of any size where exploration supplies and services can be obtained, although increased services are becoming available at Points North Landing. Points North Landing offers camp services, bulk fuel, trucking, and heavy equipment rental. Manpower for a mining operation would likely be sourced from La Ronge and other northern communities, as well as communities in southern Saskatchewan. Saskatoon is a major population centre in Saskatchewan approximately 700 km south, with highway, rail and air links to the rest of North America.

Electrical power is available from the provincial grid, with a switching station at Points North Landing. It is not known if there is sufficient capacity on that grid to operate a mining and milling operation on the Radio Property.

Fuel oil and propane are available at Points North Landing. Water is readily available in the area. The Radio Property is relatively small and does not have any large lakes that might be suitable for tailings disposal; however, there is potential to excavate a tailings facility in the low-lying swampy areas of the Property. The



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Property is large enough for the construction of facilities for an underground mining and milling operation, including areas for waste rock.

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# 6 HISTORY

The area of and around the Radio Property has seen exploration for uranium since the 1960s, with the first recorded work in the area by Numac Oil and Gas Limited (now Numac Energy Inc.) (Numac) and partner Esso Minerals Canada in 1969 (Numac, 1972). Numac carried out an airborne radiometric survey on Permit 8, including ground now covered by S-113997, and a hydrogeochemical survey analyzing for uranium and radon in lake waters. Most of the results for lakes on S-113997 returned low values, but Midwest Lake returned high radon values (3 to 10 times background values). Further prospecting in the area of Midwest Lake in 1969 and 1970 did not locate any anomalous radioactivity. The airborne radiometric survey, however, outlined a swath of higher radioactivity along the southeastern boundary or just to the southeast of the Property, which was thought to be related to till with a higher concentration of basement (rather than sandstone) material. The subsequent discovery of uranium-mineralized sandstone boulders at Midwest Lake in the early 1970s by Numac resulted in all their exploration being focused in that area, and the permit covering what is now the S-113997 area lapsed.

In 1976, Kelvin Energy Inc. staked a large land package and optioned it to Asamera Oil Corp. Ltd. (Asamera). Claim 4728 of this package included what is now S-113997. Asamera was operator of the project, which subsequently became a joint venture with Saskatchewan Mining Development Corp. (now Cameco Corp.). Work carried out in 1976, which covered S-113997, included an airborne radiometric/magnetic/Very Low Frequency Electromagnetics (VLF-EM) survey that detected a radiometric pattern similar to that of Numac's 1969 survey over the same ground. Limited prospecting discovered nothing of interest. Several VLF-EM conductors were identified in the area, but none appeared to extend to S-113997 (the several that trend towards the Property died out within 500 m of the border (Asamera, 1977b)).

In 1977, on and in the vicinity of S-113997, Asamera completed an Induced Pulse Transient System (INPUT) EM survey that detected no conductors on S-113997 (Asamera, 1977a), a surficial geology study, lake sediment and water sampling, prospecting and radon in water surveys, radon in soils and ground radiometric surveys (Asamera, 1977b, 1979). The lake sediment sampling returned above-background levels of uranium in many lakes of the Project area. Radon in lake, bog, and stream waters on the Property showed several areas with above-background to anomalous values, but no specific pattern to the results (Asamera, 1978a). One lake at the southern tip of the Property boundary gave anomalous uranium in lake sediments (5.0 ppm; background of 2.0 ppm) and anomalous radon in lake and bog waters. Some 1,500 m to the north, samples indicated a small area (100 m x 100 m) with anomalous radon in soils. No radioactive boulders were discovered in the area (Asamera, 1977b). Also in 1977, a surficial geology study was completed for Asamera by consultant L. Bayrock (Asamera, 1977c) that determined that S-113997 is covered by muskeg, and hummocky and ground moraines.

The discovery in 1977 of mineralization on the Dawn Lake 11 Zone resulted in Asamera concentrating exploration in the Dawn Lake area (a few kilometres to the east of S-113997) (Figure 6-1, McNutt (2012)), and in areas with airborne EM anomalies.



In 1978, a regional gravity survey was completed on the Asamera property, and S-113997 was interpreted to be in an area of northerly-trending basement structures within NE-trending gravity gradients (Asamera, 1978b).

In 1979, Asamera completed an airborne VLF-EM, radiometric, and magnetic survey over its property, including the area of S-113997. Results were little different from those in previous surveys (Asamera, 1980).

Between 1979 and 1982, little work was recorded on the area of S-113997. A Barringer experimental airborne COTRAN (COrrelation of TRANsients) test survey was carried out in 1982 as part of the test survey work carried out on the National Energy Agency-International Atomic Energy Agency (NEA-IAEA) area. Geochemical and other geophysical test work was also completed (Cameron, 1983; Asamera, 1982b). The only results of note were two weak EM anomalies detected by the COTRAN System (Asamera, 1982a), and anomalous nickel and copper values in lake sediments in the area covered by S-113997 (Cameron, 1983). Asamera drilled a hole (Q5-33) north of the Radio Property, and it was reported that chlorite occurs in the sandstone in the drill hole. Chlorite in sandstone is associated with hydrothermal alteration in the vicinity of uranium mineralization (Asamera, 1982c).

Saskatchewan Mining Development Corporation (SMDC) took over from Asamera as operator in 1983; however, little exploration work has been recorded on S-113997 since 1983. The recorded work between 1983 and 2005 is as follows:

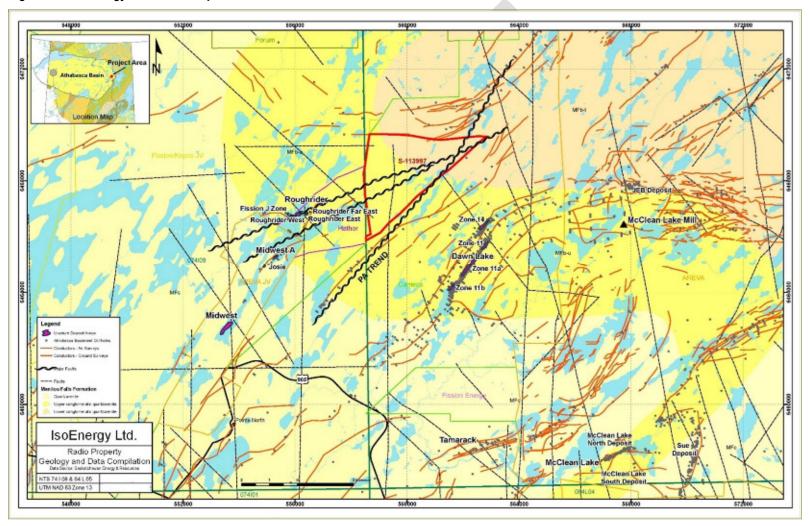
- 1986: Claim 4782 was taken to lease as ML 5304.
- 1988: Lease ML 5304 was restaked as CBS 9333.
- 1992: Boulder geochemical sampling showed high (>60%) illite in sandstone at four of ten sampling sites in the south corner of the Property (the only part of the Property that was sampled), and above-background lead values at two sites in the same area (Cameco, 1992).
- 1995: CBS 9333 became subject to Treaty Land Selection.
- 2002: AeroTEM and Step Loop EM surveys were carried out over part of S-113997. The Step Loop EM survey showed an unexplained early channel anomalous response in the southern part of the Property, and the AeroTEM consisted of four lines spaced 1,000 m apart on the Property. While no basement EM conductors were defined on the Radio property, the airborne survey results showed large areas of higher conductivity (lower resistivity), continuous from line to line along the southeastern boundary. These may be sourced in the basement, or could be caused by structures and/or alteration in the sandstone (Cameco, 2003).
- 2003: CBS 9333 lapsed; Treaty Land Selection still in force.
- 2005: Roughrider Uranium (Hathor) flew a GEOTEM survey over their adjacent property that also covered the southern third of S-113997. No anomalies were reported on S-113997 (Hathor, 2005).

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#### Figure 6-1: Geology and Data Compilation





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No additional information on exploration work conducted after 2005 is recorded in the non-confidential assessment files.

In 2009, the Treaty Land Selection was lifted, so the land previously subject to CBS 9333 became open for staking, and was staked by the Optionors.

In 2011, an airborne VTEM and magnetic survey was completed by Geotech Ltd. (Geotech, 2011) for Reva Resources Corp., who had previously held the right to explore the Property pursuant to an option agreement with the Optionors during the first half of 2011. An airborne magnetic gradiometer survey by Goldak Airborne Surveys was also completed (Goldak, 2011). The Optionors engaged Intrepid Geophysics to interpret the Goldak magnetic data (Intrepid, 2011), and R. Koch interpreted the Geotech data (Koch, 2011). The magnetic data provided more detail than is available from the government regional magnetic surveys (Buckle et al., 2010), and thus a cleaner interpretation of the basement geology. In essence, the northern half of the Property is underlain by basement Archean orthogneisses, which are strongly magnetic and very resistive.

The remainder of the Property is underlain by weakly magnetic and variably conductive rocks, which are probably Wollaston Supergroup metasediments.

The VTEM survey similarly improved on the earlier ground and airborne data. While no strong EM anomalies (basement graphitic conductors) were defined on the Property, the survey did confirm and extend the weakly conductive basement anomaly detected by the 2002 AeroTEM survey. This survey indicates that there is a significant part of the Property that is underlain by weakly conductive lithologies. Some of this weak conductivity may be related to the strong conductors (graphitic horizons) just off property to the southeast.

NexGen contractors completed ground gravity and DC-Resistivity/Chargeability surveys on the Property in the spring and summer of 2012. Gravity readings were made at 50 m intervals on cut lines spaced 200 m apart, with 1,261 gravity measurements made. Using the same grid, 58.1 km of resistivity/chargeability data were collected using a pole-dipole array, with n=100 m, and a=1 to 8. Current electrodes were advanced in 50 m increments, giving an effective coverage of n=0.5 to 8.0 (16 readings), a=50 m.

The data was then processed and interpreted by Living Sky Geophysics Inc. (see Nimeck and Bingham, 2012). Based on the ground geophysical surveys and airborne magnetic work, the northern half of the Property appears to be underlain by resistive magnetic gneisses, and most of the southern half is likely underlain by weakly magnetic, less resistive metasedimentary rocks. Eight areas of exploration interest (AEIs A through H (Figure 6-2)) were defined by resistivity lows, often with coincident gravity lows (Nimeck and Bingham, 2012); these responses are suggestive of clay alteration, which is often found with unconformity-type uranium mineralization. Two of the AEIs are in the northern half of the Property and are probably underlain by faulted magnetic orthogneisses; i.e., are structural targets. Two other AEIs (I and J) were later defined in the northern half of the Property, but may be underlain by less magnetic, possibly metasedimentary rocks.

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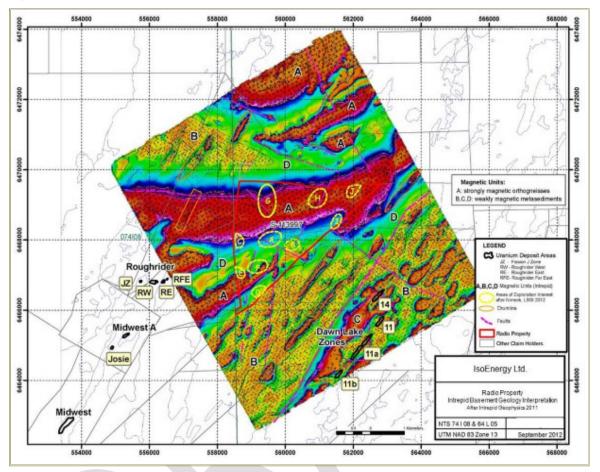


Figure 6-2: Areas of Exploration Interest

A nine hole, 3,473 m diamond drilling program was completed in 2013. This program is discussed in Section 10.



## 7 GEOLOGICAL SETTING AND MINERALIZATION

#### 7.1 Regional Setting

The Radio Property lies at the eastern edge of the Athabasca Basin, a middle Proterozoic clastic basin containing a relatively undeformed sequence of unmetamorphosed clastic rocks, predominantly sandstones, named the Athabasca Group. These clastic rocks in the eastern half of the Athabasca basin lie unconformably on the highly deformed and metamorphosed rocks of the Hearne Craton of the Western Churchill Province of the Canadian Shield (Jefferson et al., 2007). The basement rocks of the Hearne Craton consist of Archean orthogneiss, overlain by the Paleoproterozoic Wollaston Supergroup sedimentary rocks. The basement rocks were metamorphosed to amphibolite facies and structurally intercalated and deformed during the Trans Hudson orogeny, resulting in a strong north-easterly linear fabric (Annesley et al., 2005). Other significant structural orientations run east-northeast (Collins Bay Thrust, Tent-Seal structure, among others), north-south (the Tabbenor Fault system), and northwest (diabase dikes).

The central part of the Hearne Province can be divided into three lithostructural domains. From east to west these are: a) the Eastern Wollaston Domain, with the Wollaston Supergroup metasediments in this domain derived from pelitic to psammitic sedimentary rocks; b) the Western Wollaston Domain, where the stratigraphy of the Wollaston Supergroup is dominated by lower Wollaston stratigraphy, and consists of pelitic, usually graphitic, rocks, lesser psammitic rocks, quartzites, and calc-silicate lithologies; c) the Mudjatik Domain, which has lesser amounts of the Wollaston Supergroup metasediments and, instead of a linear fabric, has an arcuate basin and dome pattern. The Radio Property is located in the western Wollaston Domain.

The Trans-Hudson orogeny ended about 1.8 billion years ago. Prior to deposition of the Athabasca Group sediments, the metamorphic rocks were eroded and deeply weathered. Most "basement" rocks of the Athabasca Group show lateritic weathering (MacDonald, 1980): a thin, bleached zone at the Athabasca unconformity, then hematite-stained (red zone), weathered metamorphic rocks, grading down to a green zone where mafic minerals have been altered to chlorite. Athabasca Group sedimentation started as early as 1,730 million years (Ma) ago (Jefferson et al., 2007).

The Athabasca Group consists of eight formations with provenance, at different times, from the east, south, and northwest (Ramaekers et al., 2005). Almost all of the sequence consists of fine- to coarse-grained sandstones; mudstones and dolostones are known in the Cluff Lake area. In the eastern half of the basin only one formation is present, the Manitou Falls Formation, consisting of four units (MFa to MFd) of fluvial sandstones with interbedded pebbly beds and conglomerates. A thin basal conglomerate is common. Deposition of sediments is thought to have ceased about 1,400 Ma. Diabase dykes and sills intruded the sandstones and basement rocks approximately 1,100 Ma.

Glaciation during the Pleistocene affected the less resistant sandstones of the Athabasca Basin. Ice flow was generally from the northeast to the southwest, and the thickness of the glacial tills generally increases towards the southeast (Schreiner, 1983). There are extensive moraine and ablation deposits, numerous drumlin fields, and large esker systems and areas of outwash deposits. The tills are sandy, with little clay, and composed of eroded sandstone and conglomerates with minor, far-travelled granitic boulders.



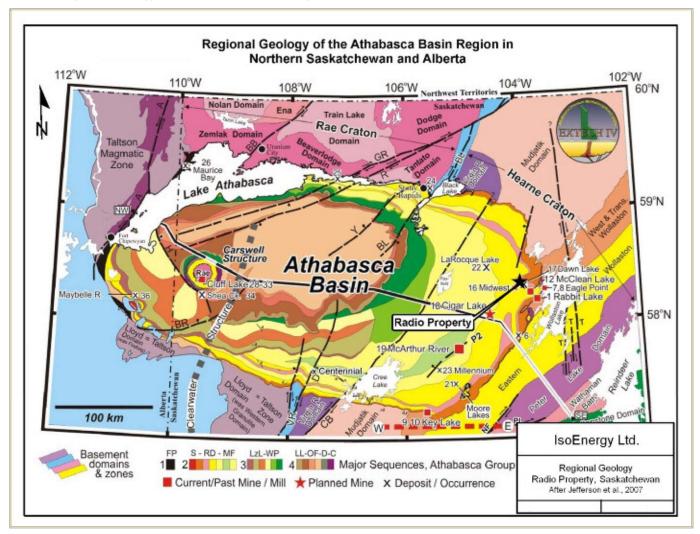
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Figure 6-1 (McNutt, 2012) illustrates the location of the Radio Property within the Athabasca Basin and relative to selected uranium deposits, occurrences, and mines.

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#### Figure 7-1: Regional Geology of the Athabasca Basin Region



## 7.2 Local and Property Geology

The Radio Property has extensive glacial cover, with thicknesses of glacial overburden estimated to be 5 m to 30 m. Most of the cover consists of hummocky and ground moraines, separated by muskeg areas. Topography is subdued, and a few outcrops of Athabasca sandstone are reported in the northwestern part of the Property (Asamera, 1977b) and locally along the southeast boundary. The Athabasca sandstones on the Property have a thickness of 150 m to 200 m, and all are part of the Manitou Falls Formation. They are fine-to medium-grained quartz sandstones with pebbly and conglomeratic beds.

Regional high-resolution magnetic information flown in 2009 with 400 m line spacing (Buckle et al., 2010), along with the 2011 data (100 m spacing), suggest that the northern half of the Property is underlain by Archean granitic rocks (magnetic high and strong vertical gradient), and the southern half is underlain by corridors of Wollaston Supergroup metasediments. Figure 7-2 illustrates the basement geology with reference to the mineral disposition boundaries and historic drilling.

The lack of airborne EM conductors on the Property suggests that the basement metasediments are not strongly graphitic; however, basement EM conductors have been identified just beyond the northern and southeastern claim boundaries. Weakly conductive basement features were defined by the VTEM and earlier AeroTEM surveys. Structural zones can be identified from the magnetic and topographic data (Figure 7-2). These structural trends (east-west, east-northeast, and northeast) are similar to those hosting mineralization on adjacent properties.

#### 7.3 Mineralization

The Radio Property is located near the north end of the Eastern Athabasca Basin, which hosts numerous uranium deposits and, currently, one operating uranium mine. Figure 7-1 illustrates the location of the Property relative to selected uranium mineral deposits, occurrences and operating mines.

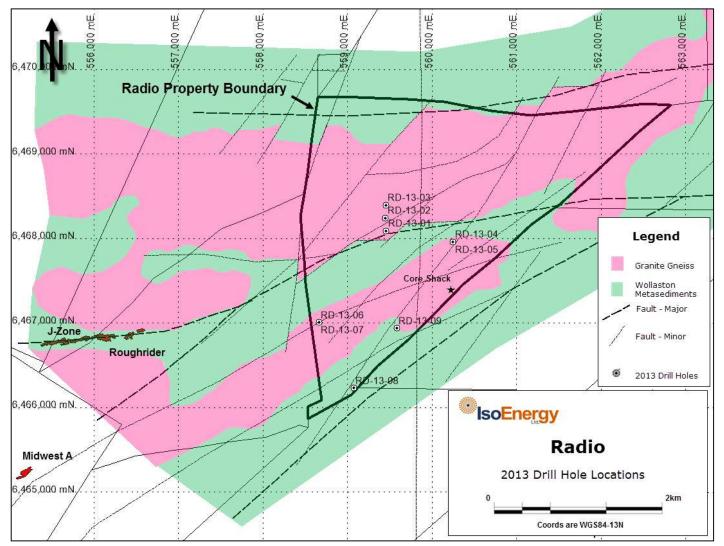
There is no known uranium mineralization on the Property.

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#### Figure 7-2: Basement Geology of Radio Property





# 8 DEPOSIT TYPES

The target on the Property is unconformity-associated uranium mineralization defined by Jefferson et al. (2007) as pods, veins, and semi-massive replacements, consisting primarily of uraninite close to basal unconformities, in particular those between Proterozoic conglomerate sandstone basins and metamorphosed basement rocks.

In the Athabasca Basin, unconformity-associated uranium mineralization is found at or near the unconformity between the Athabasca sandstones and the older Aphebian metasedimentary rocks. The metasediments are usually graphitic, or there are graphitic rocks nearby. The mineralization is always associated with basement-reactivated brittle faults, which are often rooted in graphitic rocks.

The deposits are not large volumetrically, often only a few hundred metres long (up to 2,000 m), and a few metres to 40 m thick and/or wide. Sandstone and/or unconformity hosted deposits (egress type) tend to be physically larger than ingress type basement hosted deposits.

The faulting associated with mineralization propagates upward and fluid movement into the sandstone results in extensive alteration envelopes above mineralization. Alteration consists of variable chlorite, tourmaline, hematite, illite, silicification, and desilicification. The alteration zone and trace amounts of uranium can extend more than 400 m vertically from the unconformity (Jefferson et al., 2007).

In most exploration programmes, geophysical techniques are used to explore for uranium mineralization, and the aim is to detect alteration (typically a resistivity low, or a resistivity high for silicification), and/or the faulted basement rocks (EM anomalies over graphitic rocks), rather than directly testing for uranium.

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# 9 EXPLORATION

IsoEnergy has not completed any exploration on the Property. All previous historical exploration work has been reported in Section 6 (History) and in Section 10 (Drilling).

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## 10 DRILLING

There is no evidence of drilling on the Property prior to NexGen's 2013 program. This nine hole, 3,473 m diamond drilling program was completed in 2013. The drilling program was designed to locate uranium or hydrothermal alteration associated with uranium deposits. While no anomalous radioactivity was encountered, diamond drilling successfully explained several of the geophysical targets (MacLeod LaFosse & Sykes, 2015). Interpretation of drill core observations and whole rock geochemical analyses have helped define lithologic units, alteration styles, and structural controls, which will be of interest for future exploration programs.

## 10.1 Diamond Drilling Procedures

The drill holes tested a combination of magnetic, EM, resistivity, and gravity features. The first five drill holes (RD-13-01 through to RD-13-05) were collared with an azimuth bearing 165° and inclinations set between - 70° and -90° (-"inclination indicating down"). The last four drill holes (RD-13-06 through to RD-13-09) were collared with an azimuth bearing between 305° and 345° with inclinations also set between -70° and -90°.

Drilling was completed by Bryson drilling of Archerwill, Saskatchewan. Bryson provided one drill rig for the exploration program: a helicopter-supported Zinex ® A5. Drill holes were completed using NQ-size drill rods. Where overburden was encountered, NW- size casing was drilled until seated into the sandstone. Overburden cover ranged from 3.5 m to 9.0 m down hole thicknesses. All rods and casing were recovered from all holes. The top 30.0 m to 35.0 m of bedrock was cemented for all holes.

Drill hole deviation was monitored with an EZ-Shot® borehole survey tool manufactured by Reflex Instruments Canada. The first survey in every drill hole was collected at 9 m below the casing, and additional tests were completed at approximately 30 m intervals thereafter.

Deviation tests were corrected for a magnetic declination of 14.13° east (14° 7.74' East) based on the June 20, 2013 results for the approximate core camp location (58° 20.602' North, 109° 58.279' West) using the Geological Survey of Canada's IGRF-2010 Magnetic Declination Calculator (Natural Resources Canada Geomagnetism website at http://geomag.nrcan.gc.ca/apps/mdcal- eng.php).

Downhole core orientation was made possible with the use of NQ-sized ACTIII RD digital core orientation tools (s/n 20266, 21318, 24224, and 34840) manufactured by Reflex Instruments Canada. The Reflex ACTIII RD tool was designed to provide highly accurate and consistent core orientations for structural and geotechnical purposes in all types of rock formations. The tool is based on modern gravimetric sensors that measure independent components of the Earth's gravitational field and correlates this information to accurately determine the bottom of hole and the original position of the core sample in the substrate (Reflex, 2011).

All land-based drill hole collar locations were marked with a flagged and tagged picket as per Saskatchewan Ministry of Environment regulations. Collar information on the aluminum embossed tag comprises the company name (NexGen), drill hole number, end of hole depth, azimuth and dip, start and end dates, and mineral disposition. Drill hole collar easting and northing coordinates were acquired using a Garmin GPSmap



76CSX. Elevation coordinates were acquired from a Krig-grid file produced in Geosoft Target software using previously obtained GPS ground gravity station locations. The gravity station locations have centimetre accuracy of the vertical and horizontal components.

All drill core from the 2013 drilling program is stored in wooden boxes, which in turn are stored in core racks situated at the Radio Property exploration camp. Aluminum embossed Dymo® labels were attached to each box identifying hole number, box number, and drill depth as per Saskatchewan mineral exploration guidelines. The company name (NexGen) was also attached to the first and last boxes of each drill hole.

## 10.2 General Logging Procedures

All core was properly aligned and oriented for bottom of hole position. A straight line was marked along the length of core, commencing at the drill helper markings at the bottom of each run and ending at the bottom of the previous run or top of the following run. Run lines were carried onto previous or following runs to determine continuity and/or proper alignment. In situations where the ACTIII tool was not operated properly or bottom of line transfer markings were not clearly defined, oriented core lines were transferred from the previous or following runs. Oriented core lines were unable to be drawn past intervals of core loss, friability, and/or "ground" core.

All core was meter-marked, box 'from and to' were labelled, and boxes were labelled with aluminum identification Dymo "tape."

Core recovery between run markers was measured. Any core loss was labelled on the core box as a percentage of core loss over the appropriate amount of metres.

Ambient background gamma ray radiation of the drill core was measured using a hand-held scintillometer (Exploranium model GR-110, s/n 3117 and 3294). All radiation measurements were recorded on the box as a range of minimum cps to maximum cps.

Magnetic susceptibility and conductivity measurements were taken systematically at 3.0 m intervals (at core run blocks) using a hand-held Terraplus KT-10 S/C meter (s/n 8099). All measurements were recorded on the box at the run block location.

Geologists logged drill core by recording their observations in a Microsoft Access-based drill database designed by Greg R. Burroughs Consulting of Saskatoon, SK (NexGen Drill Database Version: 1.0). The drill core logging included 1) drill hole collar information, 2) down hole survey data, 3) lithology summaries, 4) detailed structural observations, 5) friability, core loss, and fracture density, 6) oriented and non-oriented structure measurements using 180° protractor rulers for alpha measurements and NQ-size 360° wrap-around protractors for oriented core beta measurements, 7) alteration styles such as desilicification, silicification, clay alteration/bleaching, hematization/limonitization, sulphide mineralization, carbonate, chlorite, dravite, calc-silicate, and detailed paleoweathering alteration. The previously described geotechnical data (scintillometer readings, magnetic susceptibility and conductivity, and box meterages) were also recorded in the database. All of the summarized drill hole data was then entered as descriptive observations of the core (lithology, structure, alteration, mineralization).

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Colour photographs of all drill core were taken using a Nikon D3200 digital camera with Nikon AF-S DX with a 18 mm to 55 mm f/3.5 – 5.6 G lens attached. A maximum of four core boxes were arranged in sequential order on a core logging core rack, the core was sprayed with water, and the core was photographed to include all core boxes within the field of view.

Representative drill core samples were collected for whole-rock geochemical analysis, spectral analysis, density measurements, and petrographic studies. Drill core sampling is detailed below in Section 11.1.

Upon completion of drilling, each drill hole was radiometrically logged at the drill site using Mount Sopris down hole gamma probing equipment. The down hole radiometric probing set up included a 4MXA-1000 winch with 420 m of cable (s/n 2230), a Matrix Geophysical Logging System console (s/n 0769), and a single long crystal total count gamma probe model 2PGA-1000 (s/n 4214). The probing gear was originally calibrated at the SRC test pits in Saskatoon, SK on May 28, 2013. The probing gear was then sent to Alpha Nuclear of Saskatoon, SK for further testing, repairs, and calibration on May 31, 2013.

## 10.3 Diamond Drilling Results

NexGen completed 3,473 m of diamond drilling in 9 drill holes from June 19 to July 22, 2013 (MacLeod LaFosse & Sykes, 2015). The drill holes were designed to test a combination of airborne magnetic and EM anomalies, as well as ground resistivity and gravity anomalies that are considered to have geophysical signatures similar to other uranium deposits in the Athabasca Basin. Diamond drilling was concentrated on two geophysically-defined trends; the Roughrider trend and the South EM trend. Drill holes RD-13-01 through RD-13-07 were drilled along the Roughrider trend whereas drill holes RD-13-08 and RD-13-09 were drilled along the South EM trend.

Drill hole collar information is presented in Table 10-1, and a summary of down hole drill results are presented in Table 10-2. Collar locations are shown in Figure 7-2.

No anomalous radioactivity (herein defined as greater than 300 cps as measured with a hand-held scintillometer) was intersected in any of the 9 drill holes. Above average radioactivity (herein defined as greater than 150 cps as measured hand-held scintillometer) was observed in holes RD-13-03, RD-13-04, and RD-13-08. Encouraging sandstone alteration, including bleaching, desilicification and argillization was intersected in drill hole RD-13-06, immediately south of the projected trend of the Roughrider metasedimentary corridor. Also, encouraging basement clay alteration was intersected in drill hole RD-13-08.

A summary of each area with descriptive details from drill holes RD-13-06 and RD-13-08 are presented below (MacLeod LaFosse & Sykes, 2015). For the following drill hole summaries, "depth," "thickness," and "interval" all refer to down hole (core length) measurements. True vertical depths or horizontal thicknesses and intervals have not been calculated.

## 10.3.1 RD-13-06

Drill hole RD-13-06 penetrated 8.0 m of glacial till followed by 129.0 m of MFb. The marker conglomerate was intersected from 137.0 m to 138.65 m depth. The following MFb unit continues down to 188.0 m depth. A basal conglomerate was intersected from 188.0 m to 192.3 m depth. The sharp unconformity was intersected at 192.3 m depth.



Variable trace to moderate bleaching is common in the upper sandstone down to 106.3 m. Weak to moderate bleaching is common thereafter down to 144.9 m, and followed by pervasive moderate to locally strong bleaching down to 187.5 m. Weak bleaching is common from 187.5 m to the unconformity at 192.3 m. Local weak to strong desilicification is very common in the sandstone below 129.1 m. Desilicification intensity and pervasiveness increases below 163.9 m down to 179.0 m. Trace desilicification is pervasive down the unconformity. Local weak to strong clay alteration was observed between 178.5 m and the unconformity. Trace to moderate limonite alteration is observed down to the unconformity at 192.3 m depth.

The paleoweathering profile is "thin" and variable. Profile zones include; bleached from 192.3 m to 194.4 m, red from 194.4 m to 195.5 m, bleached from 195.5 m to 198.0 m, red-green from 198.0 m to 207.0 m, and green from 207.0 m to 210.0 m. Limonite extends down through the paleoweathering profile to 198.8 m depth. Below the paleoweathering profile, weak to trace clay alteration is sporadic from 227.8 m down to a depth of 233.2 m, and again from 295.0 m to 310.7 m depth. Moderate hematite intensity is observed between 205.95 m and 206.15 m within a fault zone. Sporadic and trace hematite alteration intervals measuring 0.3 m to 4.3 m thick are observed in three separate areas from 296.0 m to 322.7 m depth.

A shear zone was observed within the basement from 201.5 m depth to 206.8 m. The shear zone includes an upper fluid breccia contact, and moderately pervasive clay alteration as well as hematite increasing with depth within the zone.

No above average radioactivity was observed. A maximum of 0.74 ppm uranium (partial digestion) was returned over a 4.3 m composite interval above the unconformity at 188.0 m depth. A maximum of 16.8 ppm uranium (total digestion) was returned from a granodiorite sample at 295.0 m depth.

## 10.3.2 RD-13-08

Drill hole RD-13-08 penetrated 5.50 m of glacial till followed by 112.65 m of MFb. The marker conglomerate was intersected at 118.15 m to 122.1 m depth. MFb continued to the unconformity at 169.7 m depth.

The basement consists of four separate intercalations of (+/- graphite+/-sulphides)-garnet- cordierite-biotitequartz-plagioclase gneiss (pelitic paragneiss) with quartz-plagioclase-K-feldspar-biotite gneiss (tonalitic to granitic orthogneiss). Both paragneiss and orthogneiss are inundated with or separated by in-situ granites and pegmatites (up to 5.0 m thick). Weakly graphitic pelitic gneiss was intersected in three separate intervals; i) 369.8 m to 378.8 m, ii) 397.2 m to 404.2 m and iii) 501.0 m to 512.2 m. The end of hole was at 587.0 m depth.

Several structures were observed within the basement. A shear zone from 177.2 m to 178.2 m with strongly hematized breccias was intersected within a wider shear zone exhibiting clay alteration, quartz flooding, and brecciation throughout. A shear zone was intersected from 397.4 m to 402.8 m with moderate fracturing (includes graphitic fracture linings) and rubble zones with moderate hematite lined fractures at both margins of the shear zone. A fault zone was intersected from 507.3 m to 510.0 m with strong clay alteration near the top that terminates with abundant fracturing at depth. A fault zone was intersected from 530.5 m to 537.0 m with moderate clay alteration and rubble zones at the contacts.

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Numerous fracture zones (i.e. above average fracture/m frequency) were observed between 303.5 m and 390.8 m, and from 483.0 m to 503.0 m depth. A fracture zone was also observed in the sandstone from 99.8 to 105.8 m.

Elevated radioactivity of 80 – 190 cps was observed from 222.3 m to 227.8 m and is associated with a pegmatite. A maximum sandstone value of 0.53 ppm uranium (partial digestion) was returned from a composite sample from 160.0 to 168.65 m. A maximum basement value of 14.3 ppm uranium (total digestion) was returned from a tonalitic gneiss at 235.0 m. A maximum of 123.0 ppm thorium (total digestion) was returned from pelitic gneiss at 540.0 m. The elevated radioactivity in the pegmatite was not explained by either uranium or thorium. Overall in the basement, base metals (Cu, Mo, Ni, V, Zn) tend to be elevated in the paragneiss suite with respect to the orthogneiss. Boron is elevated within the paleoweathering profile (106.0 ppm to 231.0 ppm).

DDH	Start (dd/mm/yyyy)	Complete (dd/mm/yyyy)	Dip	TN Azimuth	Elevation (masl)	UTM E (m)	UTM N (m)
RD-13-01	20/06/2013	23/06/2013	-70	165	479	559457	6568092
RD-13-02	24/06/2013	27/06/2013	-70	165	481	559449	6468245
RD-13-03	28/06/2013	30/06/2013	-70	165	482	559452	6468396
RD-13-04	1/7/2013	3/7/2013	-70	165	472	560249	6467964
RD-13-05	3/7/2013	5/7/2013	-90	165	472	560249	6467964
RD-13-06	6/7/2013	8/7/2013	-70	345	481	558664	6467011
RD-13-07	8/7/2013	12/7/2013	-90	345	481	558664	6467011
RD-13-08	14/7/2013	19/7/2013	-85	315	468	559074	6466233
RD-13-09	20/7/2013	22/7/2013	-85	315	465	55985	6466940

#### Table 10-1: 2013 Drill Hole Collar Information

**Notes:** \*\* All UTM coordinates are in NAD 83, Zone 13

\*\* All depths are in down hole metres

\*\* All drill holes collared in mineral disposition S-113997

\*\* All drill core diameter is NQ sized

\*\* No drill rods or steel was left down hole and all NW casing was recovered

\* All drill holes were cemented from the bottom of casing down to 30 m into bedrock.

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DDH	Grid E	Grid N	Casing Depth (m)	Unconformity Depth (m)	EOH (m)	Probe Peak (cps)	Depth (m)	Probe Peak Lithology
RD-13-01	L800	-1320	3	200.05	391.4	672	372	Pegmatite – BSMT
RD-13-02	L800	-1170	6	204.3	401.0	632	156	Marker Conglomerate – SST
RD-13-03	L800	-1020	4.5	205.8	320.4	1,183	287	Pegmatite – BSMT
RD-13-04	L1600	-1460	9	176.5	335.0	610	235	Pegmatite – BSMT
RD-13-05	L1600	-1460	9	163.7	299.0	661	185	Pegmatite – BSMT
RD-13-06	L000	-2400	9	192.3	350.0	980	72	MFb – SST
RD-13-07	L000	-2400	8	180.1	445.0	787	66.5	MFb – SST
RD-13-08	L400	-3205	7.5	169.65	587.0	1,207	227	Pegmatite – BSMT
RD-13-09	935	-2480	9	~167 <sup>(1)</sup>	344.3	692	303	Pegmatite – BSMT
					3,473.1			

## Table 10-2: Summary of 2013 Down Hole Drill Results

**Notes:** \*\*All depths are in down hole metres

\*\*Grid coordinates refer to 2012 Ground Geophysics Grid

\*\* Gamma Probe used is model 2PGA (single large Nal crystal probe)

 $^{(1)}\,\mbox{Due}$  to massive core loss



## 11 SAMPLE PREPARATION, ANALYSIS, AND SECURITY

Representative drill core samples were collected for whole-rock geochemical analysis, spectral analysis, density measurements, and petrographic studies (MacLeod LaFosse & Sykes, 2015).

## 11.1 Sampling Procedure

#### 11.1.1 Whole-Rock Geochemical Samples

Three different types of samples were collected for whole-rock geochemical analysis:

- 1. composite "chip" sampling was used for sedimentary rock types
- 2. "point" samples were taken in basement rock types
- 3. split core samples were collected in basement rock types.

Quality assurance and quality control (QA/QC) samples were also collected in the field as part of internal monitoring of geochemical analyses.

Composite samples – small (centimetre-scale) chip/disc samples were collected at the end of each row of sedimentary drill core (~1.5 m intervals) and combined as a composite sample over a 15.0 m interval. Each sample comprised approximately 10 chips/discs. These samples were taken from Athabasca sandstone. The purpose of these composite samples is to provide a cost-effective geochemical representation of the relatively homogeneous Athabasca sandstone.

Point samples – whole 10.0 cm pieces of core were removed at systematic 5.0 m intervals down to the end of hole. The purpose of these samples is to provide a cost-effective geochemical representation of relatively heterogeneous basement rock types, alteration styles, and structures encountered. Selective point samples are taken occasionally in areas of interest where the feature of interest is less than 10.0 cm and a split core sample is not warranted.

Split Core samples – split core samples were collected for geochemical analysis of alteration styles, structures and other features of interest larger than 10.0 cm. Split core samples were variable with thicknesses ranging from 0.1 m and 1.1 m wide intervals. All samples were cut using a cart-mounted Husqvarna Super Tilematic® TS 250 XL3 wet saw.

QA/QC Samples – only two types of QA/QC samples were "collected" in the field; 1) field duplicate and 2) field blank. Field duplicate and blank samples were inserted into the sample stream at every tenth sample interval, with each type of sample repeating every 20th sample (i.e., duplicate on sample #10, blank on #20, duplicate on #30, blank on #40, etc.). QA/QC samples were taken regardless of sample type. Field duplicates for point samples were 10.0 cm whole core samples removed from the core immediately following the original point sample. The second half of split core samples were used as the duplicate sample for split core sample types. Blank samples were empty bags with a sample number. The blanks were used as an indication for the lab to run their "blank" material for that sample.



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All composite, point, point duplicates, and blank whole-rock geochemical samples were inserted into 20.3 cm (8.0 inch) by 33.0 cm (13.0 inch) poly ore bags. All split and split duplicates whole rock geochemical samples were inserted into 30.5 cm (12.0 inch) by 50.8 cm (20.0 inch) poly ore bags. The drill hole, depth the sample was collected from, and/or to for both composite and split core samples, and sandstone (SST) or basement (BST) rock type were recorded on two sample tags included in sample books. One tag remained attached to the sample book and the other tag was included in the plastic sample bag. A unique number was attributed to each set of tags to avoid sample identification duplication. The sample number was re-written in black marker on the outside of the respective sample bag. All samples were placed within UN approved white ROPAK IP-1 20 L sample pails and sealed with secure ROPAK U5 lids. The sample numbers included in each pail were written on the outside of the respective pails, as well as sample shipment dispatch numbers, individual pail number of total pails per dispatch, and shipping from and to addresses.

A total of 9 BSMT composites, 176 SST composites, 340 BSMT point, 17 BSMT split, 28 field duplicates (9 SST chip-sample, 2 BSMT chip-sample, 1 split sample, and 16 point sample duplicates), and 29 blank samples, for a grand total of 599 individual samples, were collected from nine drill holes of the drilling program. All geochemical samples were submitted to Saskatchewan Research Council (SRC) in Saskatoon, SK for analysis. All sample pails were transported from site to SRC by NexGen employees. SRC is an independent laboratory with ISO/IEC 17025: 2005 Accreditation.

## 11.1.2 Spectral Analysis (PIMA) Samples

Representative 1.0 cm thick chips/discs of drill core were collected at 5.0 m systematic intervals within sandstone and basement rock types, or within selective areas of fractures/structures or clay alteration for Short Wave Infra Red (SWIR) spectroscopy analysis. QA/QC samples were not collected for these types of samples as the lab provided QA/QC where necessary. Depth intervals were written on each piece of core and the samples were then inserted into Ziploc® plastic bags, also with depth intervals written on the outside. The Ziploc® bag samples for each respective drill hole were inserted into 15 inch by 32-inch plastic bags. The drill hole identification was recorded on the large sample bag, and the sample bag was then zip tied. All drill hole sample bags were placed within UN approved white ROPAK IP-1 20 L sample pails and sealed with secure ROPAK U5 lids. The drill holes included within each pail were written on the outside of the respective pails, as well as sample shipment dispatch numbers, individual pail number of total pails per dispatch, and shipping from and to addresses. A total of 292 samples were collected for spectral analysis from nine drill holes of the drilling program. All samples were sent to Mr. Ken Wasyliuk of Rekasa Rocks Incorporated in Saskatoon, SK for analysis and interpretation. Rekasa Rocks is independent of IsoEnergy.

## 11.1.3 Density Samples

Density samples were collected in order to determine density measurements of representative lithologies and alteration styles. Density sample sizes ranged from 8.0 cm to 25.0 cm length. Rock densities were calculated using "weight in air" and "weight in water" measurements. Both dry and wet rock densities were calculated. Wet rock densities were calculated after the samples were left in water for four nights and weighed. The digital weighing scale was calibrated with internal weights on an hourly basis. All density samples were inserted into 7.5 inch by 11 inch plastic bags. The drill hole and depth the sample was collected from were recorded on two sample tags included in sample books. One tag remained attached to the sample book and the other tag

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was included in the plastic sample bag. A unique number was attributed to each set of tags so as to avoid duplication. The sample number was re-written in black marker on the outside of the respective sample bag. All samples were placed within UN approved white ROPAK IP-1 20 L sample pails and sealed with secure ROPAK U5 lids. The sample pail was labelled as "Density" and transported from site to the NexGen Saskatoon office.

A total of 54 density samples was collected from all nine drill holes of the drilling program. Mr. Grant Greenwood, contractor of NexGen, in the NexGen Saskatoon office, calculated all density measurements.

## 11.1.4 Petrographic Samples

Samples for petrographic studies were collected in order to identify modal mineralogy, alteration assemblages, styles and features, and mineral paragenesis. Petrographic samples were the same samples used for density measurements.

A total of 54 petrographic samples were collected from nine drill holes of the drilling program. All petrographic studies were interpreted by Mrs. Jennifer Doxey at SRC in Saskatoon, SK.

## 11.2 Sample Preparation and Analysis

SRC performed the sample preparation on all samples submitted to them. On arrival at SRC, samples were sorted into their matrix types (sandstone or basement rock) and according to radioactivity level. SRC scans all core samples themselves with a hand-held Exploranium GR-110 scintillometer and considers anything above 600 cps as radioactive. No radioactive samples were sent to SRC.

Sample preparation (drying, crushing, and grinding) was done in separate facilities for sandstone and basement samples to reduce the possibility of sample cross-contamination. All samples are crushed and pulverized using agate balls and mills. Agate eliminates the effect of possible contamination of iron and nickel from steel ball and mill systems.

Sample drying was carried out at 80° Celsius with the samples in their original bags in large low temperature ovens. Following drying, the samples were crushed to 60% passing two millimeters using a steel jaw crusher. A 100 g to 200 g split was taken of the crushed material using a riffle splitter. This split was then pulverized to 90% passing 150 mesh using a motorized agate mortar and pestle grinding mill. The resulting pulp was transferred to a clear plastic snap-top vial with the sample number labelled on the top. All grinding mills were cleaned between sample runs using steel wool and compressed air. Between-sample grinds of silica sand were performed in case the samples were clay-rich.

Prior to the primary geochemical analyses, the sample materials were digested into solution using two digestion methods. A "total" three-acid digestion on a 250 mg aliquot of the sample pulp uses a mixture of concentrated HF:HNO<sub>3</sub>:HClO<sub>4</sub> acids to dissolve the pulp in a teflon tube over a hotplate; the residue, following drying, was dissolved in 15 mL of dilute ultrapure HNO<sub>3</sub>. A "partial" acid digestion, on a 2 g aliquot of the sample pulp, was completed with 2.25 mL of an 8:1 ratio of ultrapure HNO<sub>3</sub> and HCl for one hour at 95°C in a hot water bath and then diluted to 15 mL using deionized water.



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#### 11.2.1 SRC Analytical Details

SRC analyzed the samples by inductively coupled plasma - mass spectroscopy (ICP-MS) and inductively coupled plasma - optical emission spectroscopy (ICP-OES). Analysis for minor and trace elements on the partial digestion and total digestions for all samples were collected using ICP-MS. ICP-OES analysis was used for all major and some minor elements, and boron, on the total digestion for all samples.

#### 11.2.2 ICP-MS1, ICP-MS2, ICP-OES Packages

The ICP-MS analytical packages were developed to offer comparable methods of analysis for both basement and sandstone samples compared with the older ICP-OES methods. The packages comprise a total of 98 element analysts:

- 37 total digestion ICP-MS analysts (Ag, Be, Bi, Cd, Co, Cs, Cu, Dy, Er, Eu, Ga, Gd, Hf, Ho, Mo, Nb, Nd, Ni, Pb (Total), Pb<sub>2</sub>0<sub>4</sub>, Pb<sub>2</sub>0<sub>6</sub>, Pb<sub>2</sub>0<sub>7</sub>, Pb<sub>2</sub>0<sub>8</sub>, Pr, Rb, Sc, Sm, Sn, Ta, Tb, Th, U, V, W, Y, Yb, Zn);
- 44 partial digestion ICP-MS analysts (Ag, As, Be, Bi, Cd, Co, Cs, Cu, Dy, Er, Eu, Ga, Gd, Ge, Hf, Hg, Ho, Mo, Nb, Nd, Ni, Pb (Total), Pb<sub>2</sub>0<sub>4</sub>, Pb<sub>2</sub>0<sub>6</sub>, Pb<sub>2</sub>0<sub>7</sub>, Pb<sub>2</sub>0<sub>8</sub>, Pr, Rb, Sb, Sc, Se, Sm, Sn, Ta, Tb, Te, Th, U, V, W, Y, Yb, Zn, Zr); and
- 17 total digestion ICP-OES analysts (Al<sub>2</sub>O<sub>3</sub>, B, Ba, CaO, Ce, Cr, Fe<sub>2</sub>O<sub>3</sub>, K<sub>2</sub>O, La, Li, MgO, MnO, Na<sub>2</sub>O, P<sub>2</sub>O<sub>5</sub>, Sr, TiO<sub>2</sub>, Zr). The radioactive packages comprise a total of 64 element analytes.

#### 11.2.3 Spectral Analytical Details

The SWIR spectrums are acquired using a portable infrared mineral analyzer (PIMA) by Integrated Spectronics Pty Ltd of Baulkham Hills, New South Wales, Australia. PIMA measures the reflectance spectrum of all common clay minerals, as well as phosphates, carbonates, zeolites, and sulphates. There is no sample preparation required for the samples sent for spectral analyses with the exception of allowing the clays in the sample to air dry for one to three days (longer for especially wet and clay-rich samples). Spectrum acquisition was then completed by placing the sample on a mount overlying the PIMA. A box was constructed around the PIMA and mount to eliminate "noise" effects produced by too much light interfering with spectrum acquisition. Reflectance spectrums over the spectral range of 1300 – 2500 nm with a spectral resolution of approximately 2 nm were acquired. The reflectance spectrums were interpreted using Mr. Ken Wasyliuk's proprietary MINSPEC software. Proportionate mixtures of illite, kaolinite, secondary kaolinite, dickite, chlorite, and dravite clay species, as well as 2200 nm peak, noise, signal-to-noise, and analytical comments were recorded in a Microsoft Excel spreadsheet.

## 11.3 Sample Security

Sample security was not documented or provided. Samples were shipped from site in rice bags. Shipment receipts were provided by SRC and provided to the QP with the database. No missing samples or shipping problems were noted on the receipts.

Core storage locations were documented in a drill program summary report (MacLeod LaFosse & Sykes, 2015).

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## 11.4 Quality Assurance / Quality Control

No QA/QC compilation or evaluation was provided.

#### 11.4.1 ICP-MS1, ICP-MS2, ICP-OES Packages

The following QC protocols are applied to the packages: Instrumental: Two calibration blanks and two calibration standards Analytical: a minimum of two standards and one replicate (pulp) are fused with each group of samples, including U<sub>3</sub>O<sub>8</sub> group of samples. SRC uses the following CANMET approved and ISO/IEC 17025:2005 certified standards for the following lab packages:

- ICP-MS1 and ICP-MS2: ASR109, ASR209, and DCB01
- ICP-OES: CAR110.

#### 11.4.2 Boron Package

The boron fusion solution is analyzed by ICP-OES.

A blank, internal QC standard and one replicate are fused with each group of samples. Equipment calibration standards are made from a 1,000 ppm B commercial certified solution.

SRC uses the following CANMET approved and ISO/IEC 17025:2005 certified standards for the following lab package:

• Boron: BL, BM, and BH.

## 11.5 Qualified Person Discussion on Sample Preparation, Analysis, and Security

Chain of custody should be tracked on diamond drill programs.

QA is information collected to demonstrate and quantify the reliability of assay data. QC consists of procedures used to maintain a desired level of quality in the database (Long, 2009). Exploration usually requires high precision on low concentrations and is more frequently concerned with identifying anomalous values, which may be near the analytical detection limit.

In the opinion of the QP, the documented sampling methods are acceptable and meet industry standard practice. It is recommended that chain of custody be tracked for future programs.

For future drill programs, the following are also recommended:

- Additional specific gravity determinations should be collected during drill programs that sample uranium mineralization host rock and waste rock.
- A quality assurance program should be implemented for future drilling, including blind insertion of blank material, duplicate samples, and standard reference materials.
- A QC program should be implemented to analyze/monitor the QA samples.



# 12 DATA VERIFICATION

The 2013 diamond drill program did not intersect anomalous uranium. The diamond drilling successfully explained several of the geophysical targets (MacLeod LaFosse & Sykes, 2015). Interpretation of drill core observations, whole rock geochemical analyses, and geophysical properties have helped define lithological, alteration styles and structural controls, which may be of interest for future exploration programs.

## 12.1 Verification of Drill Intersections

Above average radioactivity (within this report defined as greater than 150 cps as measured hand-held scintillometer) was observed in holes RD-13-03 and RD-13-08. Data verification was conducted for these drill holes, along with RD-13-06, to confirm the potential for anomalous uranium mineralization. The data verification procedures consisted of a review of the: drill logs, downhole gamma logs, core photos, sample analyses, geological sections and supplemented by core review on site visit. Data reviewed for verification are included in Appendix A.

## 12.2 Site Visit – August 2016

A site visit was conducted on August 18, 2016. The QP, Mr. Tim Maunula, was accompanied by Mr. Steve Blower, VP Exploration for IsoEnergy.

During the site visit, drill core was examined for drill holes RD-13-06 and RD-13-08. The core boxes were stored on core racks. The core boxes were labelled with Dymo© tape which reported the drill hole number, box number and meterage. The unconformity was marked on the wood strip above the drill core (Figure 12-1). Sample tags were observed in the boxes.

#### Figure 12-1: RD-13-06 Unconformity in Drill Core





Generally, the geology logs (MacLeod LaFosse & Sykes, 2015) reflected the lithology noted in the drill holes. In RD-13-06, the alteration intersected may not fully explain the magnetic low targeted by this drill hole.

The collar for RD-13-06 was visited in the field to confirm the collar location from the drill log. A Garmin GPSmap 60 CSx confirmed the collar within 2 m (Table 12-1). No rods or casing were seen in the hole. The picket was flagged and the drill hole number, dip, azimuth and date drilled were recorded on Dymo© tape.

#### Table 12-1: RD-13-06 Collar Coordinates

Source	Easting, m Northing, m	
NexGen	558,664	6,467,011
QP	558,662	6,467,011

No representative samples were collected by the QP.

## 12.3 Comments on Data Verification

The data verification procedures confirmed the potential for anomalous uranium at the Radio Project and that the data is adequate for the purposes used in this Technical Report.

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# 13 MINERAL PROCESSING AND METALLURGICAL TESTING

IsoEnergy has not undertaken mineral processing or metallurgical test work.

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# 14 MINERAL RESOURCE ESTIMATES

IsoEnergy has not completed a mineral resource estimate.



## 15 ADJACENT PROPERTIES

The Radio Property is adjacent to and immediately along trend of Rio Tinto PLC's Roughrider Uranium Project, which hosts the Roughrider West, Roughrider East, and Far East zones. The description below is an excerpt from the technical report entitled: "Preliminary Economic Assessment Technical Report for the East and West Zones of the Roughrider Uranium Project, Saskatchewan" prepared for Hathor Exploration Ltd. by SRK Consulting (Canada) Inc. having an effective date of September 13, 2011 and available under its profile on www.sedar.com.

The Roughrider West Zone was discovered during the winter drilling program of February 2008. A hydrothermal clay alteration system was intersected in drill hole MWNE-08-10, while high-grade uranium mineralization (5.29% uranium oxide ( $U_3O_8$ ) over a core length interval of 11.9 m) was intersected in drill hole MWNE-08-12. The Roughrider West Zone is defined by approximately 149 diamond drill holes, and has been intersected along a northeast-southwest strike length of approximately 200 m with an across-strike extent of 100 m. Uranium mineralization occurs at depths of 190 m to 290 m below surface and is hosted predominantly within basement rocks. Only minor amounts of uranium occur at or above the unconformity.

The Roughrider East Zone was discovered during the summer drilling program in September 2009. Hydrothermal alteration was intersected in a number of earlier drill holes during the summer program. Highgrade uranium mineralization (12.71% U<sub>3</sub>O<sub>8</sub> over a core length interval of twenty-eight metres) was intersected subsequently in drill hole MWNE-10-170. This zone was delineated by drilling during the winter and summer of 2010. The best intersection to date was obtained in drill hole MWNE-10-648, which intersected 7.75% U<sub>3</sub>O<sub>8</sub> over a core length interval of 63.5 m. The Roughrider East Zone is currently defined by approximately 88 diamond drill holes (21 of which were used to evaluate the mineral resource), and has a surface projection of approximately 120 m long in a north-easterly direction, which corresponds to a downdip length of approximately 125 m, and an across-strike extent of up to 70 m. Uranium mineralization has a vertical extent of up to eighty to 100 m, starting at depth approximately 250 m from surface, and some 30 m to 50 m below the unconformity. This is slightly deeper than the Roughrider West Zone. Mineralization forms moderately dipping, cigar-shaped shoots along the intersection of these two controlling structures.

A third zone, the Roughrider Far East Zone, was discovered during the winter drilling program in February 2011. The discovery drill hole intersected  $1.57\% U_3O_8$  over core length of 37.5 m. The current outline of the Far East Zone is defined by mineralization in 28 of 40 drill holes completed in the immediate vicinity of Roughrider Far East Zone; weak mineralization in other drill holes is not included in the current outline of the Far East Zone. The best intersection to date is drill hole MWNE-11-715, which intersected  $7.91\% U_3O_8$  over a core length interval of 27.0 m. The writer of this report has not been able to independently verify the information regarding the Roughrider Project. Also, the information on mineralization on this project is not necessarily indicative of potential mineralization on the Radio Property.

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# 16 OTHER RELEVANT DATA AND INFORMATION

There is no other relevant data or information to be included.



## 17 INTERPRETATION AND CONCLUSIONS

The Radio Property area has been the focus of uranium exploration since the late 1960s, but the Radio Property itself has never received a concerted exploration effort, in part because of the lack of basement EM anomalies and a period of dormancy between 1995 and 2009 due to the Treaty Land Selection process. Work to date on the Radio Property includes:

- Airborne radiometric surveys that outlined higher radioactivity along the southeastern boundary, probably related to till composition. Follow-up prospecting located no uranium mineralization on the Radio Property.
- Geochemical surveys that identified elevated and anomalous values in different parts of the Property, mostly in the south, but with no clear trend.
- Tests for uranium in lake sediments that showed elevated values (to 2.5 x background) on most of the Property. In general, the geochemical results are encouraging.
- Historical airborne and ground EM surveys, which have not defined strong basement EM anomalies. Basement EM anomalies typically define the presence of graphitic horizons and trace the strongest response, but do not adequately define the width of the horizon. A 2002 AeroTEM survey did show zones of weak to moderate conductivity on the Radio Property, which might be caused by alteration in the sandstone, or weak conductivity in the basement. A weak conductor was identified by an airborne COTRAN survey. A Step Loop early channel EM anomaly occurs in the same area.
- A Geotech VTEM electromagnetic survey flown in 2011 that outlined a broad area of weak conductivity, probably basement-sourced, that was partially defined by the 2002 AeroTEM survey. Part of the area of weak conductivity seems related to nearby strong EM anomalies that are off property to the southeast. The western part of this weakly conductive response trends E-NE to E-W, and is not related to a strong EM anomaly.
- NexGen completed detailed ground gravity and DC-Resistivity/Chargeability surveys on the Property in 2012 that defined anomalous responses in several areas; these anomalous areas coincide with those defined by the 2011 airborne surveys. These ground surveys also supported the interpretation of metasedimentary basement rocks in the southern part of the Property, and basement of orthogneisses in the northern half.
- A nine diamond drill hole exploration was completed in 2013, total meterage of 3,472.9 m was drilled. The exploration program was designed to search for the presence of uranium or hydrothermal alteration associated with uranium deposits. While no anomalous radioactivity was encountered, diamond drilling successfully explained several of the geophysical targets (MacLeod LaFosse & Sykes, 2015). Interpretation of drill core observations, whole rock geochemical analyses, and geophysical properties has helped define lithological, alteration styles and structural controls that may be of interest for future exploration programs.
- There is no mineralization known on the Property, but there are numerous significant uranium deposits and zones of uranium mineralization within 15 km of the Property (Figure 6-1).



Based on the magnetic, electromagnetic, and resistivity/chargeability data, the basement geology of the Property is interpreted as Archean orthogneisses in the northern half of the Property, and corridors of Wollaston Supergroup metasediments in the southern half (Intrepid, 2011; Koch, 2011; Nimeck and Bingham, 2012). One of these may be the eastern extension of metasediments that host high grade basement hosted uranium mineralization at the adjacent Roughrider property. As well, strong EM anomalies caused by basement graphitic horizons are known just to the north and to the southeast of the boundaries of S-113997, and it is possible that weakly graphitic horizons related to these anomalies extend onto the project.

The results of historical exploration have in general been positive. Both geochemical and geophysical results along with diamond drilling show weak anomalies and/or alteration that may be related to uranium mineralization. Structural zones interpreted from the magnetic and topographic data in the immediate vicinity of the Property have orientations similar to those that host mineralization on the adjacent properties.

There are no significant risks and uncertainties that could reasonably be expected to affect the reliability or confidence on the exploration information. However, there are inherent risks and uncertainties in exploration. One of these is the interpretation of geophysical data for the Radio Project, primarily the assumptions made about what is causing the magnetic and/or EM responses. In areas of the Athabasca Basin where the sandstone covers the basement rocks, exploration is focused on drill testing interpreted basement geology and geophysical anomalies. Drill results do not always support the original interpretation.

The Radio Property warrants further exploration for unconformity-associated uranium mineralization.



## 18 **RECOMMENDATIONS**

#### 18.1 Phase 1 Exploration Program

Given the interpretations and conclusions above, an exploration program is recommended for Radio. The highest priority should be given to:

(a) A program of surficial geochemistry consisting of soil sampling and radon emanometry, using the 2012 DC-resistivity grid. A total of 360 soil samples should be collected on 100 m stations along lines spaced 200 m apart. Radon cups should also be planted at each sample site.

(b) A program of helicopter supported diamond drilling consisting of 5,060 m of drilling in 13 drill holes.

Three main target areas should be tested:

- The Roughrider Trend of Metasediments (9 drill holes)
- Basement Alteration in RD-13-08, (2 drill holes)
- The Northern Metasediment Trend (2 drill holes).

The primary focus should be the completion of three fences across the east-west trend of expected metasediments that extends east from the Roughrider deposit (Figure 18-1). One of these fences should also follow-up on the zone of sandstone alteration intersected in RD-13-06 in 2013. Additionally, drilling should follow-up on the sporadic but extensive basement alteration observed in RD-13-08. Finally, two drill holes should evaluate the potential for mineralization in projected metasediments along the north edge of the Property.

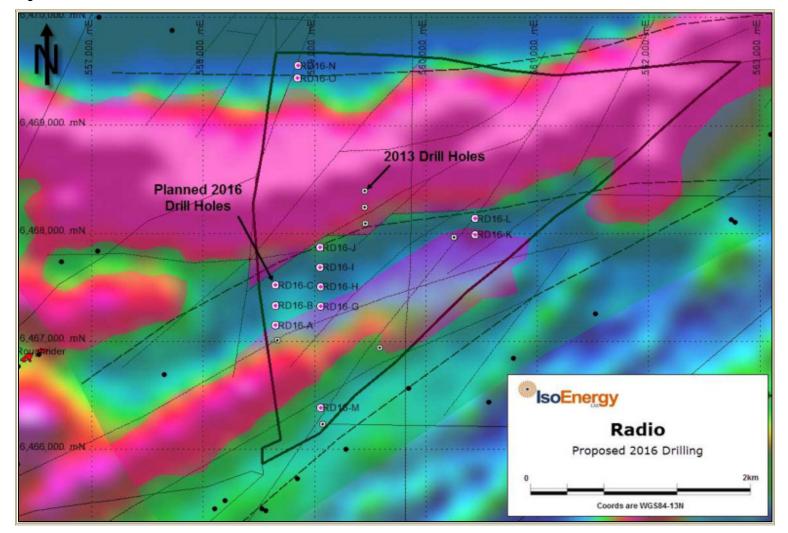
Figure 18-1 shows the planned drill hole collar locations labelled as RD16-A through M. The basement metasediments correspond to a magnetic low shown as blue-green coloring on Figure 18-1.

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#### Figure 18-1: Phase 1 Planned Drill Hole Collar Locations



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## 18.1.1 Phase 1 Exploration Budget

The estimated cost of Phase 1 is summarized in Table 18-1.

 Table 18-1:
 Radio Phase 1 Exploration Budget

Exploration and Development	Estimated Cost (Cdn\$)
Drilling Costs	1,257,000
Geochemistry and Assays	129,000
Camp Costs	127,000
Contract Geologists	166,000
Permits	3,000
Total	1,682,000

## 18.2 Phase 2 Exploration Program

A second phase exploration program is also recommended, focused on additional diamond drilling (7,800 m in 20 drill holes). The amount of metres to be drilled and the locations of the drill holes are approximations, as they are dependent on the results of the first phase. Phase 2 exploration is contingent upon positive results in the first phase. Drill targets will likely consist of anomalies from the Phase 1 soil sampling survey, follow-up evaluations of the Phase 1 drilling results, and other target areas based on new information and interpretations. Total expenditures for Phase 2 should be approximately Cdn\$3.75 million. Recommended expenditures for Phase 2 are summarized in Table 18-2.

#### Table 18-2: Radio Phase 2 Exploration Budget

Exploration and Development	Estimated Cost (Cdn\$)
Drilling (3,900 m) of targets generated from the Phase 1 exploration program	1,250,000
Additional drilling (7,800 m) based on new information/interpretations	2,500,000
Total	3,750,000



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Waterbury Lake.jpg. Available at http://www.denisonmines.com/s/Waterbury.asp accessed August 2016.

TECHNICAL REPORT FOR THE RADIO URANIUM PROJECT, NORTHERN SASKATCHEWAN



## 20 CERTIFICATE OF QUALIFIED PERSON

I, Tim Maunula, P.Geo., of Chatham, Ontario do hereby certify as follows:

- 1. I am the Principal Geologist of T. Maunula & Associates Consulting Inc., 15 Valencia Drive, Chatham, Ontario, N7L 0A9, Canada.
- 2. I graduated with a H.B.Sc. degree in Geology from Lakehead University in 1979. In addition, I have obtained a Citation in Geostatistics from the University of Alberta in 2004.
- I am a member of the Association of Professional Geoscientists of Ontario (Registration Number 1115). I am a member in good standing of The Canadian Institute of Mining, Metallurgy and Petroleum.
- 4. I have worked as a geologist for a total of 37 years since my graduation from university.
- I have read the definition of "qualified person" set out in National Instrument 43-101 Standards of Disclosure for Mineral Projects" (NI 43-101) and certify that by reason of my education, affiliation with a professional association, and past relevant work experience, I am a QP for the purposes of NI 43-101.
- 6. I am responsible for all sections of the technical report titled "Technical Report for the Radio Project, Northern Saskatchewan" with an effective date of August 19, 2016 (the Technical Report).
- 7. My most recent personal inspection of the Radio Property was on August 18, 2016.
- 8. I have had no prior involvement with the Radio Property.
- 9. As of the effective date of the Technical Report, 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.
- 10. I am independent of the issuer, in accordance with Section 1.5 of NI 43-101.
- 11. I have read NI 43-101 and Form 43-101F1, and this Technical Report has been prepared in compliance with that instrument and form.

Dated this 8<sup>th</sup> day of September 2016 in Chatham, Ontario.

"Original Document Signed and Sealed"

Tim Maunula, P.Geo.

#### ISOENERGY LTD.

TECHNICAL REPORT FOR THE RADIO URANIUM PROJECT, NORTHERN SASKATCHEWAN



# **APPENDIX A**

**Data Verification Documentation** 

# Drill Hole Summary Report: RD-13-03

# Hole Status: Completed

## Summarized Geology:

From (m)	To (m)	Mineral 1	Mineral 2	Mineral 3	Interp Geology		
0	3				Glacial Overburden		
	Primary Texture: N/A		Seconda	nry Texture: N/A	Crystal Size: N/A		
3	151.9				Manitou Falls B member		
	Primary Texture: N/A		Secondary Texture: N/A		Crystal Size: N/A		
151.9	167.5				Manitou Falls B Marker Conglomerate		
	Primary Textu	re: N/A	Seconda	nry Texture: N/A	Crystal Size: N/A		
167.5	204.7				Manitou Falls B member		
	Primary Textu	re: N/A	Seconda	iry Texture: N/A	Crystal Size: N/A		
204.7	205				MF Basal Conglomerate		
	Primary Textur	re: N/A	Seconda	ny Texture: N/A	Crystal Size: N/A		
205	205.75				Manitou Falls B member		
	Primary Textu	re: N/A	Seconda	ry Texture: N/A	Crystal Size: N/A		
205.75	205.8				Unconformity		
	Primary Textu	re: N/A	Seconda	ry Texture: N/A	Crystal Size: N/A		
205.8	224				Granitic Gneiss		
	Primary Textu	re: N/A	Seconda	ry Texture: N/A	Crystal Size: N/A		
224	224.4				Pegmatite		
	Primary Textu	re: N/A	Seconda	iry Texture: N/A	Crystal Size: N/A		
224.4	242				Granitic Gneiss		
	Primary Textu	re: N/A	Seconda	ry Texture: N/A	Crystal Size: N/A		

242	242.3		Granite
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
242.3	269.8		Granitic Gneiss
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
269.8	271.5		Pegmatite
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
271.5	283.5		Granitic Gneiss
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
283.5	290.8		Dioritic Gneiss
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
290.8	292.3		Granitic Gneiss
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
292.3	295.05		Pegmatite
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
295.05	296.95		Granitic Gneiss
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
296.95	298.95		Granite
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
298.95	303.6		Granitic Gneiss
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
303.6	306.7		Pegmatite
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
306.7	311		Granitic Gneiss
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A

311	319.05		Dioritic Gneiss
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
319.05	320.1		Pegmatite
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
320.1	320.4		Dioritic Gneiss
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A

### Structural Geology:

### Sandstone Alteration:

Bleaching				Deslicification				Silicification			
From (m)	To (m)	Intensity	Style	From (m)	То (т)	Intensity	Style	From (m)	То (m)	Intensity	Style
3	119	Weak	N/A	3	206	None	N/A	3	206	None	N/A
119	170	Trace	N/A							I	
170	191	Weak	N/A								
191	194	Moderate	N/A								
194	195	Weak	N/A								
194 195	195 197	Weak Moderate	N/A N/A								
195	197	Moderate	N/A								

Cituy				memune				Drurne			
From (m)	To (m)	Intensity	Style	From (m)	To (m)	Intensity	Style	From (m)	To (m)	Intensity	Style
3	206	None	N/A	3	206	None	N/A		No	Dravite Alteration	on

### Sandstone Uranium Mineralization:

From (m) To (m)	Style	Comments
	No Uranium	Mineralization

#### **Basement** Alteration:

Clay				Hematite	!			Chlorite			
From (m)	То (m)	Intensity	Style	From (m)	То (m)	Intensity	Style	From (m)	То (m)	Intensity	Style
206	227	None	N/A	206	227	None	N/A		No	Chlorite Alteratior	1
227	227	Moderate	N/A	227	227	Moderate	N/A				
227	237	None	N/A	227	320	None	N/A				
237	238	Weak	N/A			II					
238	320	None	N/A								
Dravite				Graphite				Sulphide			
From (m)	To (m)	Intensity	Style	From (m)	То (m)	Intensity	Style	From (m)	То (m)	Intensity	Style
	N	o Dravite Alteratio	on		Nc	Graphite Alterat	ion	206	320	None	N/A

### **Basement Uranium Mineralization:**

From (m) To (m)	Style	Comments
	No Uranium	Mineralization

Scintillometer Readings:

From (m)	To (m)	Min. CPS	Max. CPS
3	137	60	80
137	163.9	80	100
163.9	222.5	60	90

### Magnetic Susceptibility and Conductivity:

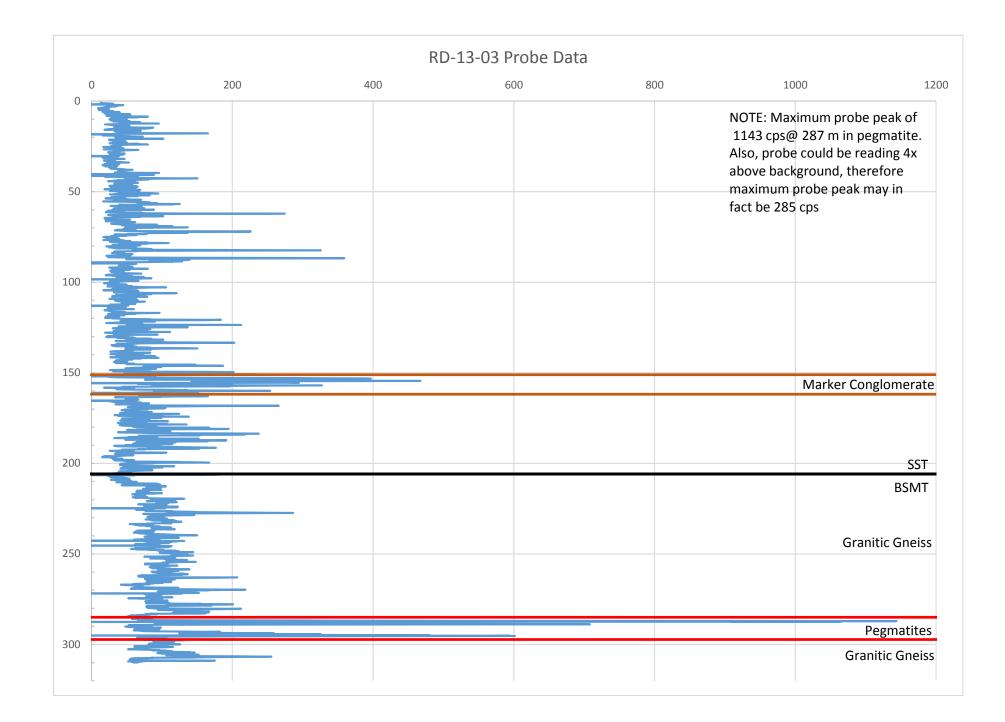
PS	Depth (m)	Mag. Sus. Reading (x10-3 SI)	Conductivity Reading (S/m)
	191	0.044	374.0
	194	0.027	553.0
	197	0.047	419.0

Wednesday, February 18, 2015

222.5	286.65	70	100
286.65	287.1	120	200
287.1	320.4	70	100

200	0.055	299.0
203	0.099	299.0
206	0.040	299.0
209	0.076	525.0
212	0.236	619.0
215	0.162	437.0
218	0.113	619.0
221	0.192	878.0
224	0.065	477.0
227	0.182	268.0
230	0.379	70.9
233	0.157	584.0
236	0.108	878.0
239	0.144	525.0
242	0.189	657.0
245	0.047	958.0
248	0.089	878.0
251	0.152	388.0
254	0.314	751.0
257	0.099	298.0
260	0.186	307.0
263	0.167	290.0
266	0.125	361.0
269	0.113	403.0
272	0.140	374.0
275	0.143	282.0
278	0.327	249.0
281	0.210	583.0
284	0.088	751.0
287	0.306	267.0
290	0.182	170.0
293	0.073	1000.0
296	0.099	524.0
299	0.404	583.0
302	0.329	274.0

305	0.057	419.0
308	0.821	1000.0
311	0.422	656.0
314	0.249	476.0
317	0.075	217.0
320	0.043	373.0



# Drill Hole Summary Report: RD-13-06

# Hole Status: Completed

### Summarized Geology:

From (m)	To (m)	Mineral 1	Mineral 2	Mineral 3	Interp Geology
7.9	8				Glacial Overburden
	Primary Textu	re: N/A	Seconda	nry Texture: N/A	Crystal Size: N/A
8	137				Manitou Falls B member
	Primary Textu	re: N/A	Seconda	nry Texture: N/A	Crystal Size: N/A
137	138.65				Manitou Falls B Marker Conglomerate
	Primary Textu	re: N/A	Seconda	nry Texture: N/A	Crystal Size: N/A
138.65	188				Manitou Falls B member
	Primary Textu	re: N/A	Seconda	iry Texture: N/A	Crystal Size: N/A
188	192.3				MF Basal Conglomerate
	Primary Textu	re: N/A	Seconda	ry Texture: N/A	Crystal Size: N/A
192.3	192.35				Unconformity
	Primary Textu	re: N/A	Seconda	ry Texture: N/A	Crystal Size: N/A
192.35	208				Granodioritic Gneiss
	Primary Textu	re: N/A	Seconda	ry Texture: N/A	Crystal Size: N/A
208	213.3				Pegmatite
	Primary Textu	re: N/A	Seconda	ry Texture: N/A	Crystal Size: N/A
213.3	213.8				Granodioritic Gneiss
	Primary Textu	re: N/A	Seconda	rry Texture: N/A	Crystal Size: N/A
213.8	217.1				Calc-Silicate
	Primary Textu	re: N/A	Seconda	ry Texture: N/A	Crystal Size: N/A

217.1	263.1		Granodioritic Gneiss
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
263.1	270.35		Tonalite
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
270.35	270.7		Pelitic Gneiss
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
270.7	278.05		Tonalitic Gneiss
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
278.1	280.8		Granitic Gneiss
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
280.8	282.5		Tonalitic Gneiss
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
282.5	283.5		Pegmatite
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
283.5	290.5		Tonalite
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
290.5	293		Pelitic Gneiss
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
293	294.2		Granite
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
294.2	311.4		Granodioritic Gneiss
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
311.4	322.2		Pelitic Gneiss
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A

322.2	350					Granitic Gneiss	
	Primary Tex	ture: N/A	Secondar	y Texture: N/A	(	Crystal Size: N/A	
Structural G	Geology:						

From (m)	To (m)	Structure Type	Interpretational Geology
132.5	134	Fault Breccia	strong offsets displacing bedding running at aproximately 5 degrees
137.5	138.5	Fault Breccia	strong offsets of bedding running at approximately 10 degrees
201.5	206.8	Shear Zone	begins with a fluid breccia contains moderate pervasive clay alteration as well as hematite with increasin depth

### Sandstone Alteration:

leachin	g			Deslicific	cation			Silicificat	tion		
From (m)	To (m)	Intensity	Style	From (m)	To (m)	Intensity	Style	From (m)	To (m)	Intensity	Style
8	14	Moderate	N/A	8	14	None	N/A	8	192	None	N/A
14	25	Weak	N/A	14	16	Trace	N/A				
25	34	Moderate	N/A	16	129	None	N/A				
34	64	Trace	N/A	129	130	Weak	N/A				
64	71	Weak	N/A	130	133	Trace	N/A				
71	87	Trace	N/A	133	134	Weak	N/A				
87	90	Moderate	N/A	134	139	None	N/A				
90	106	Trace	N/A	139	139	Weak	N/A				
106	111	Moderate	N/A	139	141	None	N/A				
111	114	Weak	N/A	141	142	Strong	N/A				
114	125	Moderate	N/A	142	143	Weak	N/A				
125	126	Weak	N/A	143	151	None	N/A				
125	120	Moderate	N/A	151	151	Moderate	N/A				
				151	154	None	N/A				
128	137	Weak	N/A	154	154	Weak	N/A				
137	140	Moderate	N/A	154	155	Moderate	N/A				
140	145	Weak	N/A	155	161	None	N/A				
145	146	Moderate	N/A	161	164	Weak	N/A				
146	149	Strong	N/A	164	164	None	N/A				
149	161	Moderate	N/A	164	164	Moderate	N/A				
161	170	Strong	N/A	164	165	Trace	N/A				
170	188	Moderate	N/A	165	166	Moderate	N/A				
188	192	Weak	N/A	166	167	Strong	N/A				
		I		167	168	Weak	N/A				
				168	169	Trace	N/A				
				169	170	Moderate	N/A				
				170	173	Weak	N/A				
				173	174	Strong	N/A				
				174	177	Weak	N/A				
				177	179	Strong	N/A				

				179	192	Trace	N/A				
Clay				Hematite				Dravite			
From (m)	То (т)	Intensity	Style	From (m)	То (m)	Intensity	Style	From (m)	То (m)	Intensity	Style
8	14	None	N/A	8	192	None	N/A		No	Dravite Alteration	
14	15	Trace	N/A			1					
15	179	None	N/A	_							
179	179	Weak	N/A								
179	185	None	N/A	_							
185	188	Strong	N/A								
188	192	None	N/A								
192	192	Weak	N/A								

 From (m)
 To (m)
 Style
 Comments

 No Uranium Mineralization

### **Basement** Alteration:

Clay				Hematite	?			Chlorite			
From (m)	To (m)	Intensity	Style	From (m)	То (m)	Intensity	Style	From (m)	То (т)	Intensity	Style
192	197	None	N/A	192	206	None	N/A		No	Chlorite Alteration	
197	197	Trace	N/A	206	206	Moderate	N/A				
197	199	None	N/A	206	296	None	N/A				
199	200	Trace	N/A	296	300	Trace	N/A				
200	202	None	N/A	300	306	None	N/A				
202	205	Trace	N/A	306	310	Trace	N/A				
205	207	Weak	N/A	310	322	None	N/A				
207	208	Trace	N/A	322	323	Trace	N/A				
208	228	None	N/A	323	350	None	N/A				
228	228	Trace	N/A								
228	230	None	N/A								
230	231	Weak	N/A								
231	233	Trace	N/A								
233	295	None	N/A								
295	295	Trace	N/A								
295	296	Weak	N/A								
296	311	Trace	N/A								
311	350	None	N/A								
Dravite				Graphite				Sulphide			
From (m)	То (m)	Intensity	Style	From (m)	То (m)	Intensity	Style	From (m)	То (m)	Intensity	Style
	N	o Dravite Alteratio	on		No	Graphite Alterati	on	192	218	None	N/A
						•		040	04.0	<b>T</b>	N1/A

218

218

293

320

218

293

320

350

Trace

None

Weak

Trace

N/A

N/A

N/A

N/A

### **Basement Uranium Mineralization:**

From (m) To (m)	Style	Comments	
	No Uraniun	n Mineralization	

### Scintillometer Readings:

From (m)	To (m)	Min. CPS	Max. CPS
7.9	136.1	50	90
136.1	149.7	70	110
149.7	178.6	60	90
178.6	350	70	130

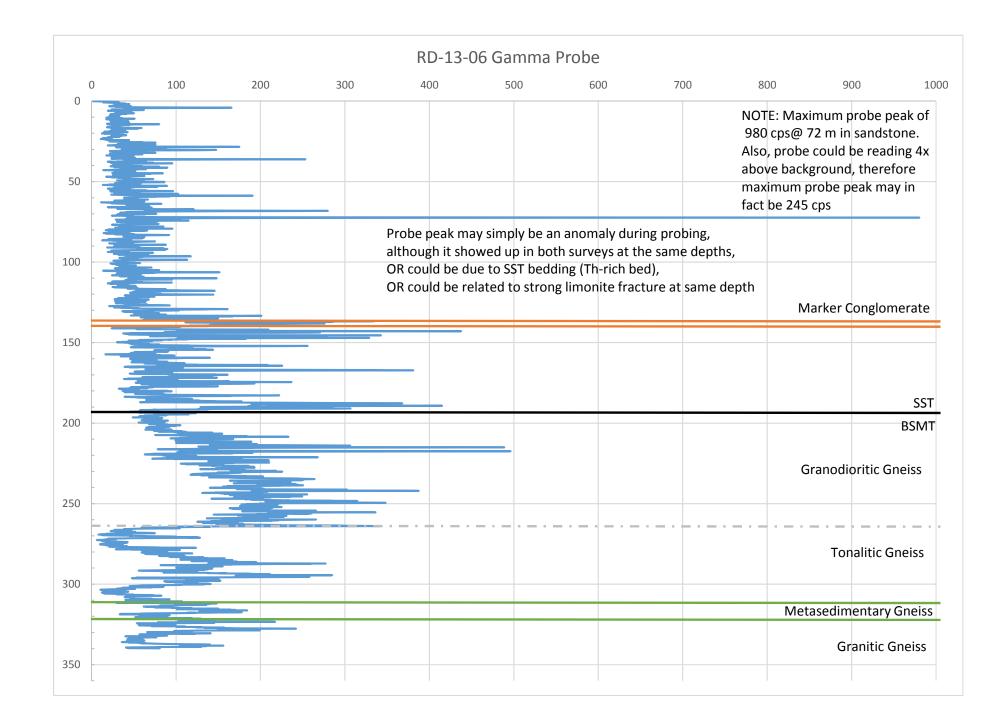
### Magnetic Susceptibility and Conductivity:

Depth (m)	Mag. Sus. Reading (x10-3 SI)	Conductivity Reading (S/m)		
8	0.031	1000.0		
11	0.029	1000.0		
14	0.021	1000.0		
17	0.030	456.0		
20	0.002	500.0		
23	0.018	1000.0		
26	0.035	1000.0		
29	0.228	113.0		
32	0.025	1000.0		
35	0.024	1000.0		
38	0.033	1000.0		
41	0.047	1000.0		
44	0.134	361.0		
47	0.315	374.0		
50	0.120	1000.0		
53	0.067	1000.0		
56	0.025	1000.0		
59	0.087	1000.0		
62	0.016	1000.0		
65	0.018	268.0		
68	0.027	403.0		
71	0.023	1000.0		
74	0.049	1000.0		
77	0.020	1000.0		
80	0.054	404.0		
83	0.640	62.3		

86	0.021	1000.0
89	0.021	1000.0
92	0.019	1000.0
95	0.021	1000.0
98	0.024	1000.0
101	0.023	404.0
104	0.030	1000.0
107	0.021	1000.0
110	0.018	1000.0
113	0.207	261.0
116	0.027	1000.0
119	0.083	1000.0
122	0.009	1000.0
125	0.027	1000.0
128	0.020	1000.0
131	0.132	350.0
134	0.016	1000.0
137	0.025	1000.0
140	0.016	1000.0
143	0.128	262.0
146	0.056	1000.0
149	0.019	1000.0
152	0.039	1000.0
155	0.200	438.0
158	0.122	308.0
161	0.015	1000.0
164	0.019	1000.0
167	0.009	1000.0
170	0.017	1000.0
173	0.065	754.0
176	0.041	1000.0
179	0.026	1000.0
182	0.028	1000.0
185	0.020	1000.0
188	0.079	1000.0
188	0.079	1000.0

191	0.006	1000.0
194	0.027	526.0
197	0.070	1000.0
200	0.177	1000.0
203	0.210	1000.0
206	0.118	1000.0
209	0.277	1000.0
212	0.130	1000.0
215	0.245	1000.0
218	0.266	1000.0
221	0.076	1000.0
224	0.066	500.0
227	0.032	1000.0
230	0.064	553.0
233	0.129	1000.0
236	0.322	189.0
239	0.057	1000.0
242	0.164	326.0
245	0.174	1000.0
248	0.035	876.0
251	0.274	154.0
254	0.247	196.0
257	0.093	1000.0
260	0.039	1000.0
263	0.094	373.0
266	0.225	1000.0
269	2.080	1000.0
272	1.400	1000.0
275	2.340	499.0
278	0.419	1000.0
281	0.247	1000.0
284	0.231	1000.0
287	0.017	1000.0
290	0.146	1000.0
293	0.411	1000.0

296	0.144	1000.0
299	0.279	1000.0
302	0.059	1000.0
305	0.060	1000.0
308	0.084	1000.0
311	0.108	138.0
314	1.110	1000.0
317	0.543	1000.0
320	0.197	1000.0
323	0.177	1000.0
326	0.054	164.0
329	0.064	656.0
332	0.116	1000.0
335	0.214	274.0
338	0.144	1000.0
341	0.136	1000.0
344	0.119	1000.0
347	0.137	254.0
350	0.204	123.0



# Drill Hole Summary Report: RD-13-08

# Hole Status: Completed

### Summarized Geology:

From (m)	To (m)	Mineral 1	Mineral 2	Mineral 3	Interp Geology		
0	5.5				Glacial Overburden		
	Primary Textu	re: N/A	Seconda	nry Texture: N/A	Crystal Size: N/A		
5.5	118.15				Manitou Falls B member		
	Primary Textu	re: N/A	Seconda	nry Texture: N/A	Crystal Size: N/A		
118.15	122.1				Manitou Falls B Marker Conglomerate		
	Primary Textu	re: N/A	Seconda	nry Texture: N/A	Crystal Size: N/A		
122.1	169.65				Manitou Falls B member		
	Primary Textu	re: N/A	Seconda	iry Texture: N/A	Crystal Size: N/A		
169.65	169.7				Unconformity		
	Primary Textu	re: N/A	Seconda	ry Texture: N/A	Crystal Size: N/A		
169.7	176.7				Pelitic Gneiss		
	Primary Textu	re: N/A	Seconda	ry Texture: N/A	Crystal Size: N/A		
176.7	203.4				Granitic Gneiss		
	Primary Textu	re: N/A	Seconda	ry Texture: N/A	Crystal Size: N/A		
203.4	224.4				Tonalitic Gneiss		
	Primary Textu	re: N/A	Seconda	ry Texture: N/A	Crystal Size: N/A		
224.4	229.1				Pegmatite		
	Primary Texture: N/A		Seconda	rry Texture: N/A	Crystal Size: N/A		
229.1	369.8				Tonalitic Gneiss		
	Primary Textu	re: N/A	Seconda	ry Texture: N/A	Crystal Size: N/A		

369.8	378.8		Weakly Graphitic Pelitic Gneiss
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
378.8	380		Pelitic Gneiss
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
380	384.1		Pelitic Gneiss
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
384.1	385.15		Quartzite
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
385.15	389.7		Pegmatite
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
389.7	390.2		Pelitic Gneiss
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
390.2	394.4		Pegmatite
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
394.4	396.2		Pelitic Gneiss
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
396.2	397.2		Pegmatite
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
397.2	404.2		Weakly Graphitic Pelitic Gneiss
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
404 <u>.</u> 2	406.4		Granite
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
406.4	410		Pelitic Gneiss
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A

410	411.3		Granitic Gneiss
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
411.3	416.7		Pelitic Gneiss
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
416.7	421.2		Tonalitic Gneiss
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
421.2	430.8		Granodioritic Gneiss
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
430.8	431.9		Pegmatite
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
431.9	453.1		Tonalitic Gneiss
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
453.1	455.05		Pegmatite
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
455.05	501		Tonalitic Gneiss
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
501	510.2		Weakly Graphitic Pelitic Gneiss
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
510.2	510.7		Pegmatite
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
510.7	512.3		Pelitic Gneiss
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A
512.3	528		Tonalitic Gneiss
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A

528	529.7		Granite		
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A		
529.7	533.3		Tonalitic Gneiss		
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A		
533.3	537.3		Pegmatite		
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A		
537.3	543.5		Tonalitic Gneiss		
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A		
543.5	555.5		Tonalitic Gneiss		
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A		
555.5	562.4		Pegmatite		
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A		
562.4	587		Tonalitic Gneiss		
	Primary Texture: N/A	Secondary Texture: N/A	Crystal Size: N/A		

## Structural Geology:

From (m)	To (m)	Structure Type	Interpretational Geology
99.8	105.8	Fracture Zone	
177.2	178.2	Shear Zone	Strongly hematized fluid breccias within wider shear zone showing clay alteration and quartz flooding, and brecciation throughout.
303.5	308	Fracture Zone	fracture zone begins wih rubble and continues with moderate fracturing throughout interval, includes minor amounts of clay along fractures
325	330	Fracture Zone	moderate fracturing with clay seams
333	361	Fracture Zone	moderate frature as well as rubble sections seen throughout unit mixed with weak clay
384	390.8	Fracture Zone	moderate fracturing seen in this interval
397.4	402.8	Shear Zone	moderate fracturing as well as rubble ones at the begininning and end of unit, zone also includes graphite and hematite at beginning and end of unit.
483	503	Fracture Zone	beginning with moderate fracturing and ending in a pelitic graphite that resembles a shear zone
507.3	510	Fault	beginning in a garnetiferrious pelitic gniess the fault zone is highly argilized at the start of the unit and terminates with abundant fracturing.
530.5	537	Fault	the zone comenses in a rubble section with moderate to srtrong fracturing with several other rubble zones ending in a fracture.

### Sandstone Alteration:

Bleaching			Deslicific	Deslicification				Silicification			
From (m)	То (т)	Intensity	Style	From (m)	То (m)	Intensity	Style	From (m)	То (m)	Intensity	Style
6	61	Weak	N/A	6	88	None	N/A	6	170	None	N/A
61	170	Moderate	N/A	88	95	Trace	N/A			II	
				95	156	None	N/A				
				156	161	Weak	N/A				
				161	170	None	N/A				

Clay					Hematite					Dravite			
From (m)	To (m)	Intensity	Style	From (m)	То (т)	Intensity	Style	From (m)	To (m)	Intensity	Style		
6	170	None	N/A	6	170	None	N/A	No Dravite Alteration					

### Sandstone Uranium Mineralization:

From (m) To (m)	Style	Comments	
	No Uranium N	Aineralization	

### **Basement** Alteration:

lay				Hematite			Chlorite	Chlorite				
From (m)	To (m)	Intensity	Style	From (m)	То (m)	Intensity	Style	From (m)	То (m)	Intensity	Style	
170	177	None	N/A	170	177	None	N/A		No	Chlorite Alteration	า	
177	178	Weak	N/A	177	178	Strong	N/A					
178	181	None	N/A	178	178	Trace	N/A					
181	181	Weak	N/A	178	185	None	N/A					
181	185	None	N/A	185	185	Trace	N/A					
185	186	Weak	N/A	185	390	None	N/A					
186	273	None	N/A	390	391	Trace	N/A					
273	274	Trace	N/A	391	398	None	N/A					
274	308	None	N/A	398	398	Trace	N/A					
308	308	Trace	N/A	398	402	None	N/A					
308	311	None	N/A	402	403	Trace	N/A					
311	312	Trace	N/A	403	415	None	N/A					
312	314	None	N/A	415	416	Trace	N/A					
314	330	Trace	N/A	416	587	None	N/A					
330	333	None	N/A									
333	334	Weak	N/A									
334	348	Trace	N/A	_								
348	361	Weak	N/A									
361	362	None	N/A									
362	363	Trace	N/A									
363	364	None	N/A									
364	365	Trace	N/A									
365	372	None	N/A									
372	372	Trace	N/A									
372	380	None	N/A									
380	387	Trace	N/A									
387	387	Weak	N/A									
387	410	Trace	N/A									
410	410	Weak	N/A									
410	430	Trace	N/A									

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430	431	Weak	N/A
431	432	Trace	N/A
432	438	None	N/A
438	440	Trace	N/A
440	449	None	N/A
449	453	Trace	N/A
453	458	None	N/A
458	461	Trace	N/A
461	481	None	N/A
481	507	Trace	N/A
507	509	Moderate	N/A
509	510	Weak	N/A
510	530	None	N/A
530	542	Trace	N/A
542	544	None	N/A
544	545	Weak	N/A
545	546	None	N/A
546	547	Trace	N/A
547	555	None	N/A
555	561	Trace	N/A
561	587	None	N/A

### Dravite

### Graphite

Sulphide

502

532

532

587

Trace

None

From (m)	То (т)	Intensity	Style	From (m)	To (m)	Intensity	Style	From (m)	To (m)	Intensity	Style
	N	o Dravite Alteratio	n	No Graphite Alteration				170	335	None	N/A
								335	335	Trace	N/A
								335	502	None	N/A

N/A

N/A

### **Basement Uranium Mineralization:**

From (m) To (m)	Style	Comments	
	No Uraniun	n Mineralization	

### Scintillometer Readings:

From (m)	To (m)	Min. CPS	Max. CPS
5.5	123 <u>.</u> 1	50	80
123.1	150.4	50	90
150.4	168.6	50	80
168.6	222.3	80	140
222.3	227.5	80	160
227.5	227.8	130	190
227.8	231.2	80	140
231.2	258.2	80	120
258.2	276.4	80	100
276.4	361.3	80	120
361.3	383.7	70	100
383.7	496.4	70	90
496.4	587	60	100

### Magnetic Susceptibility and Conductivity:

Depth (m)	Mag. Sus. Reading (x10-3 SI)	Conductivity Reading (S/m)
155	0.013	854.0
158	0.038	1000.0
161	0.332	77.0
164	0.054	282.0
167	0.042	1000.0
170	0.233	78.3
173	0.314	220.0
176	0.268	254.0
179	0.789	47.8
182	0.056	640.0
185	0.167	487.0
188	0.037	1000.0
191	0.122	299.0
194	0.068	1000.0
197	0.106	1000.0
200	0.035	512.0
203	0.102	319.0
206	0.082	487.0
209	0.066	1000.0
212	0.026	684.0
215	0.041	684.0
218	0.061	1000.0
221	0.112	309.0
224	0.294	102.0
227	0.053	1000.0
230	0.099	261.0

233	0.071	1000.0
236	0.201	126.0
239	0.032	1000.0
242	0.065	255.0
245	0.054	1000.0
248	0.136	446.0
251	0.138	166.0
254	0.176	353.0
257	0.116	686.0
260	0.073	1000.0
263	0.057	686.0
266	0.048	151.0
269	0.033	793.0
272	0.294	149.0
275	0.237	85.5
278	0.171	605.0
281	0.039	446.0
284	0.418	49.2
287	0.339	62.0
290	0.253	139.0
293	0.131	208.0
296	0.140	687.0
299	0.237	112.0
302	0.113	310.0
305	0.216	114.0
308	0.037	380.0
311	0.068	395.0
314	0.024	1000.0
317	0.279	106.0
320	0.313	54.8
323	0.060	938.0
326	0.048	1000.0
329	0.034	1000.0
332	0.076	1000.0
335	0.072	263.0

0.045	396.0
0.039	1000.0
	573.0
	468.0
	244.0
0.239	222.0
0.195	412.0
0.073	645.0
0.248	311.0
0.194	354.0
0.448	1000.0
0.375	468.0
0.252	110.0
0.453	227.0
0.081	189.0
0.194	857.0
0.306	734.0
0.116	1000.0
0.263	686.0
0.118	513.0
0.203	1000.0
0.106	204.0
0.848	1000.0
0.371	643.0
0.026	1000.0
0.585	29.7
0.077	249.0
2.340	194.0
0.274	63.6
0.311	208.0
0.023	342.0
0.120	301.0
0.037	1000.0
0.196	185.0
0.368	6.6
	0.073 0.248 0.194 0.448 0.375 0.252 0.453 0.081 0.194 0.306 0.116 0.263 0.116 0.263 0.118 0.203 0.118 0.203 0.106 0.848 0.371 0.026 0.848 0.371 0.026 0.585 0.077 2.340 0.274 0.274 0.311 0.023 0.120 0.037 0.196

443	0.151	149.0
446	0.099	111.0
449	0.205	1000.0
452	0.078	156.0
455	0.066	573.0
458	0.438	515.0
461	0.184	542.0
464	0.033	193.0
467	0.149	302.0
470	0.189	122.0
473	0.068	1000.0
476	0.134	368.0
479	0.134	197.0
482	0.098	430.0
485	0.081	1000.0
488	0.498	223.0
491	0.148	1000.0
494	0.183	170.0
497	0.085	1000.0
500	0.070	883.0
503	0.046	1000.0
506	0.226	1000.0
509	0.784	66.0
512	0.019	1000.0
515	0.310	1000.0
518	0.092	1000.0
521	0.086	73.3
524	0.141	201.0
527	0.283	152.0
530	0.167	1000.0
533	0.452	223.0
536	0.090	157.0
539	0.295	270.0
542	0.308	95.0
545	0.370	155.0

548	0.154	1000.0
551	0.107	647.0
554	0.141	1000.0
557	0.082	647.0
560	0.179	98.8
563	0.146	1000.0
566	0.141	1000.0
569	0.171	244.0
572	0.104	368.0
575	0.052	1000.0
578	0.230	228.0
581	0.097	865.0
584	0.147	1000.0
587	0.056	1000.0

