

# Uranium 101 – Angilak Property

KIV : TSX-V



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**Nunavut Mining Symposium**  
**April 2014**

AN  
**AURORA**  
MINERAL RESOURCE GROUP  
COMPANY

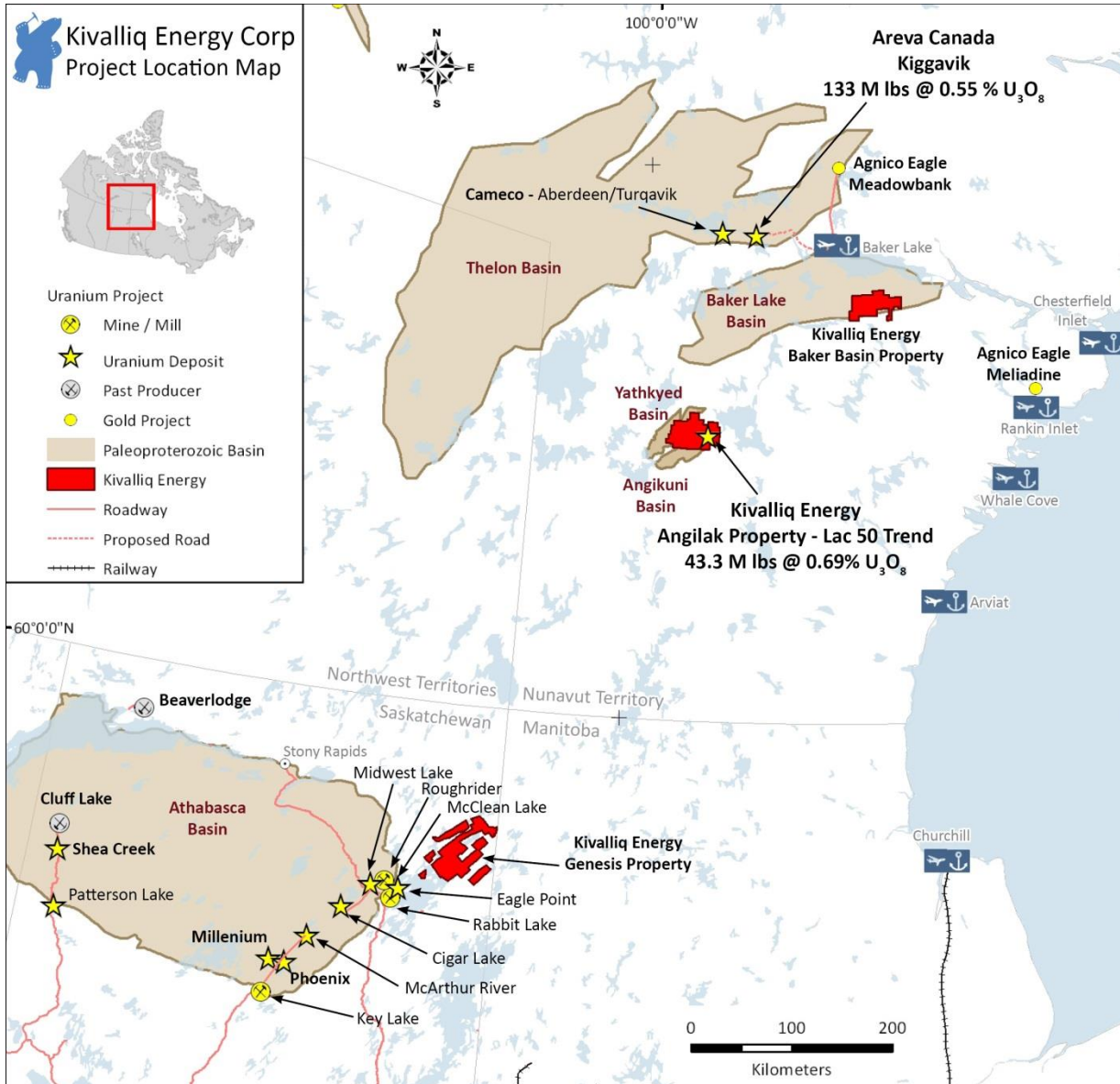
This presentation does not constitute an offer to sell or solicitation of an offer to buy any securities of Kivalliq Energy Corporation.

The information in this presentation related to the mineral resource estimate has been approved by Robert Sim, P.Geo, of SIM Geological Inc. who is an independent Qualified Person as defined under National Instrument 43-101. Jeff Ward, P.Geo, President of Kivalliq and a Qualified Person for the Company has reviewed and approved the information contained in this presentation and related news releases.

## **FORWARD LOOKING STATEMENTS**

This presentation contains "forward-looking statements". These forward-looking statements are made as of the date of this presentation and Kivalliq Energy Corporation does not intend, and does not assume any obligation, to update these forward-looking statements. Forward-looking statements include, but are not limited to, statements with respect to the timing and amount of estimated future exploration, success of exploration activities, expenditures, permitting, and requirements for additional capital and access to data.

Forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of the Company to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Such factors include, among others, risks related to actual results of current exploration activities; changes in project parameters as plans continue to be refined; the ability to enter into joint ventures or to acquire or dispose of property interests; future prices of mineral resources; accidents, labour disputes and other risks of the mining industry; ability to obtain financing; and delays in obtaining governmental approvals or financing.



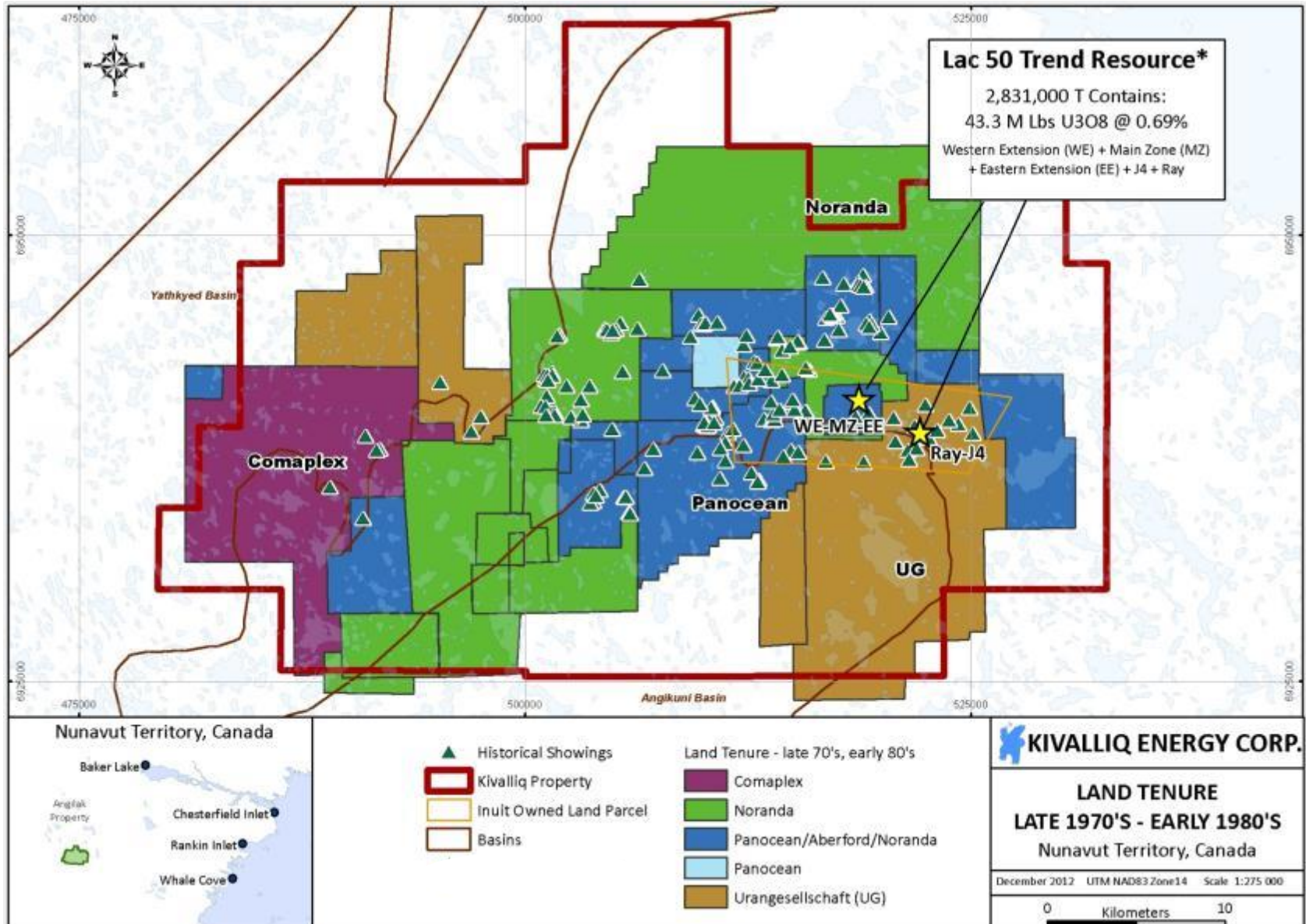
## Nunavut & Saskatchewan

- Mining friendly, pro-uranium jurisdictions
- Multiple projects being operated and advanced by global mining companies
- Kivalliq's Nunavut properties in close proximity to Areva's Kiggavik and Cameco's Aberdeen & Turqavik projects
- New Genesis Property in Saskatchewan along strike from 15% of global uranium production

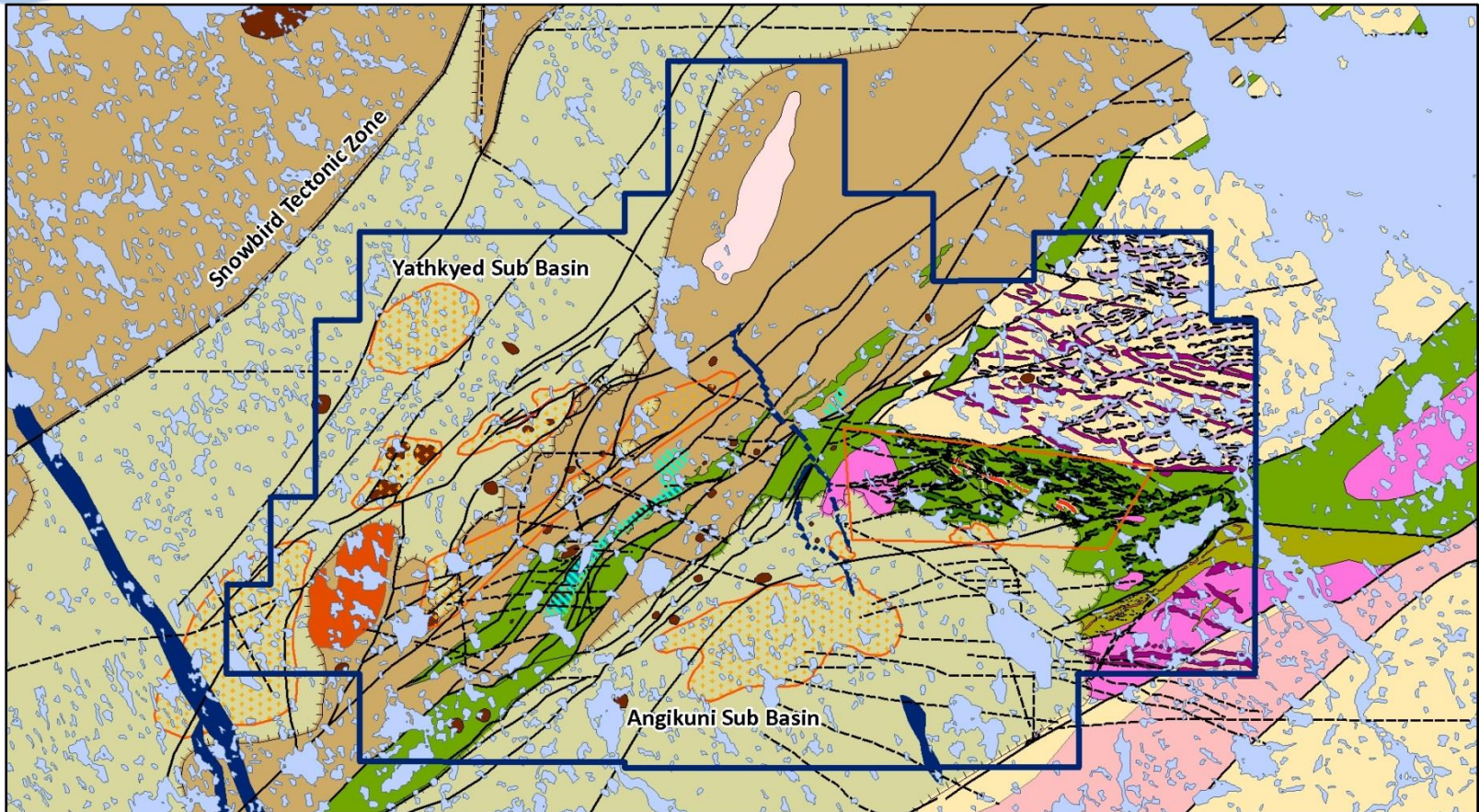
## Community Engagement

- Landmark agreement with Nunavut Tunngavik Inc (NTI) to explore for uranium on Inuit Owned Lands (IOL)
- Consultation a priority with ongoing community updates, site visits and local hire policies
- Environmental Stewardship Awards in 2011 and 2012



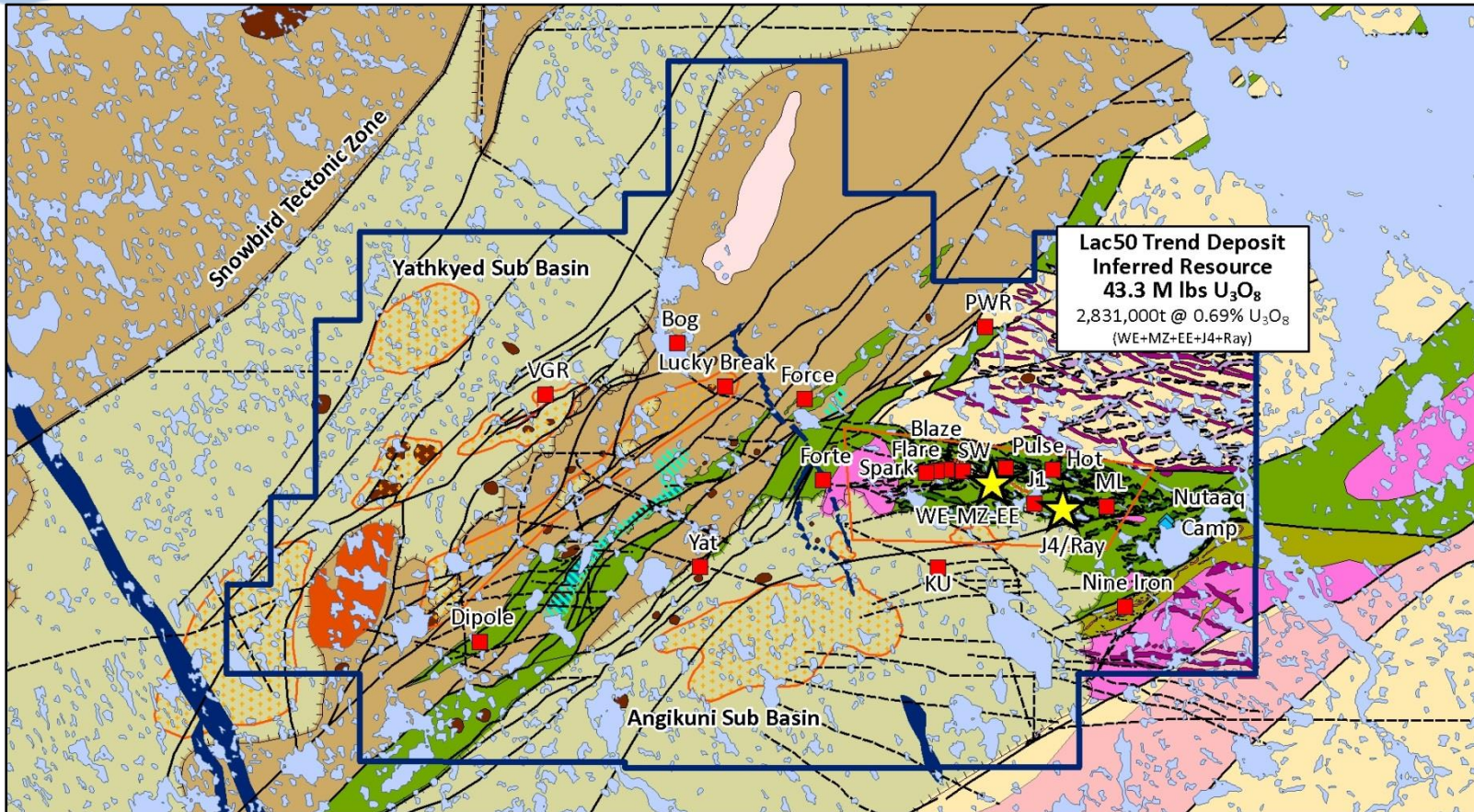






<p> Angilak Property Outline</p> <p><b>GEOLOGY LEGEND</b> (after Stacey &amp; Barker, 2013)</p> <ul style="list-style-type: none"> <li> Major Faults (known)</li> <li> Major Faults (interpreted)</li> <li> Mineralized Conductor (U-Cu-Ag-Mo)</li> <li> Geological Contacts (known)</li> <li> Geological Contacts (interpreted)</li> <li> Dubawnt Unconformity (ticks indicate stratigraphic way up)</li> <li> Archean Thrust Faults (reactivated during Proterozoic deformation)</li> </ul>	<p><b>MESOPROTEROZOIC MACKENZIE DYKE SWARM</b></p> <ul style="list-style-type: none"> <li> PMd - MacKenzie Dykes</li> <li> PNg - Nueltin Granitoid Suite</li> </ul> <p><b>PALEOPROTEROZOIC DUBAWNT SUPERGROUP</b></p> <ul style="list-style-type: none"> <li> Pcb - Approx. limits of carbonatite related veins.</li> <li> Pfen - Fenite and other metasomatized wall rocks</li> <li> Pki - Potassic to Ultrapotassic Intrusions</li> <li> Pcif - Approx. limits of Christopher Island Formation</li> <li> PDs - Dubawnt Supergroup</li> </ul>	<p><b>PALEOPROTEROZOIC PLUTONIC ROCKS</b></p> <ul style="list-style-type: none"> <li> PHg - Hudsonian Granitoid Intrusions</li> <li> Pga - Proterozoic? Gabbroic Intrusions, possibly Tulemalu-MacQuoid Dyke Swarm?</li> </ul> <p><b>ARCHEAN SUPRACRUSTAL &amp; PLUTONIC ROCKS</b></p> <ul style="list-style-type: none"> <li> Agr - Archean Granitoid Intrusion</li> <li> Agt - Granodiorite - Tonalite Gneiss</li> <li> Agn - Felsic Gneiss Indifferentiated</li> <li> ARs - Gneissic Metasedimentary Rock</li> <li> AHts - Henik Group?</li> <li> AHmv - Henik Group, Yathkyed Greenstone Belt</li> </ul>	<p> <b>KIVALLIQ ENERGY CORP.</b></p> <p><b>Angilak Property</b> Nunavut Territory, Canada</p> <p><b>Property Geology</b></p> <hr/> <p>April 2014      UTM NAD83 Zone14      Scale 1:275 000</p> <hr/> <p>0      5 Kilometers 10      15</p>
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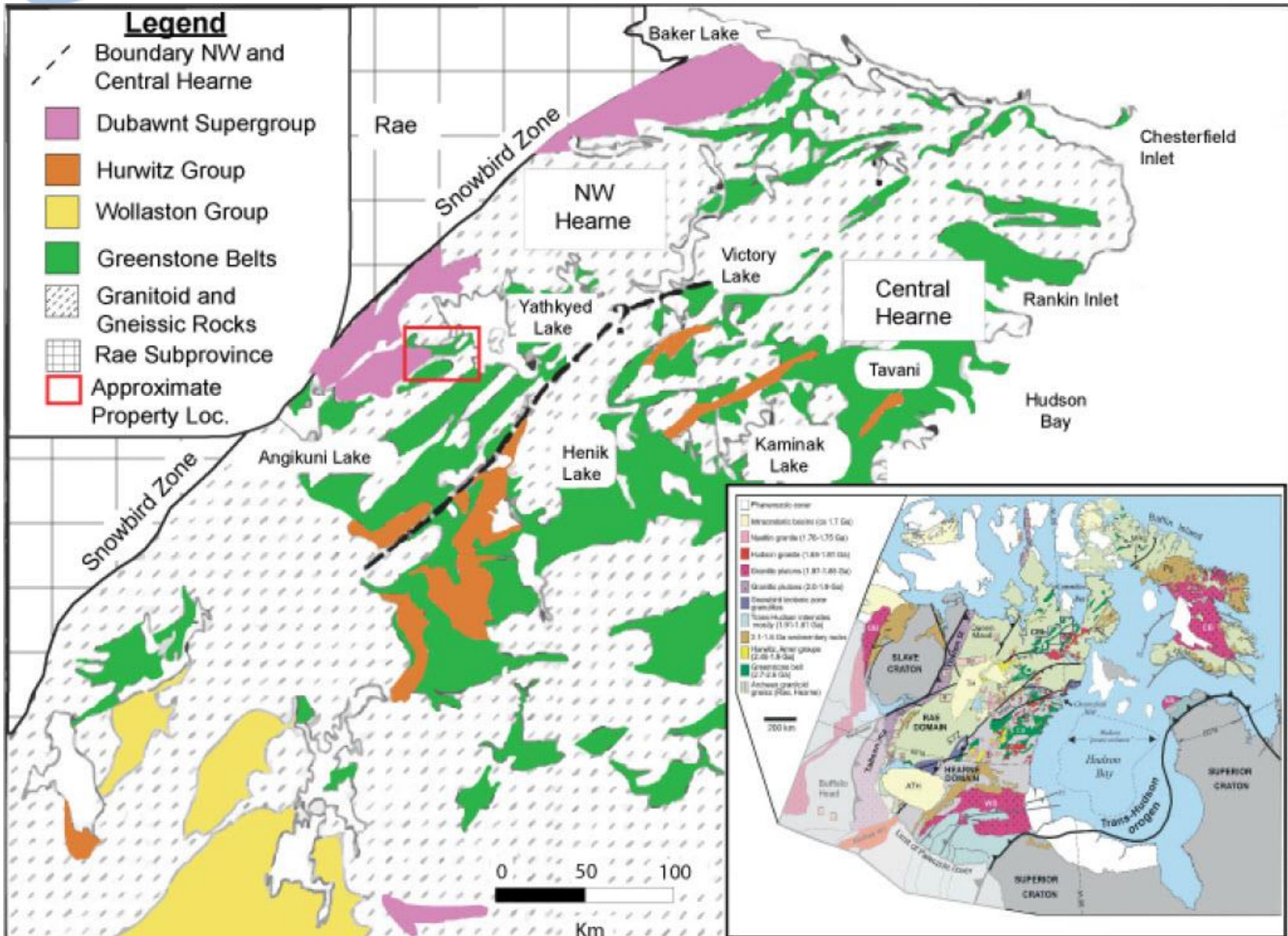




**Lac50 Trend Deposit  
Inferred Resource**  
43.3 M lbs U<sub>3</sub>O<sub>8</sub>  
2,831,000t @ 0.69% U<sub>3</sub>O<sub>8</sub>  
(WE+MZ+EE+J4+Ray)

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The Western Churchill province of the Canadian Shield is a large region of Precambrian basement rocks between the Slave and Superior provinces. Boundaries are defined by the Thelon and Trans-Hudson orogens to the northwest and southeast respectively.

The Western Churchill province has been divided into the Rae and Hearne subprovinces and further divided into the Rae, central Hearne, and northwestern Hearne domains

The Rae and Hearne subprovinces are separated by a large (>2800 km long) tectonic feature known as the Snowbird Tectonic Zone (STZ) with the Rae to the northwest and the Hearne to the southeast.

Studies of the STZ suggest a collisional origin between the Hearne and the Rae at 1.9 Ga

After the Snowbird event the Churchill province was intruded by 1.85-1.81 Ga felsic plutons and 1.76-1.75 Ga granites of the Hudson and Nuelin suites. Subvolcanic bodies that fed ultrapotassic magmatism of the overlying basins of the 1.84-1.72 Ga Dubwant Supergroup sedimentary sequences related to these intrusions.



- Archean basement hosted (metavolcanic), structurally controlled, unconformity associated uranium deposits (Angikuni sub-basin)
- Occurs in steeply dipping tectonized graphitic tuff, chemical metasediments or discrete shear - typically conductive due to sulphides (py, cpy, moly, gal and sph)
- Mineralization is pitchblende (uraninite) and coffinite - disseminated, in breccia or as discrete veins
- Envelope of low T hydrothermal alteration and bulk rock geochemistry (multi scaled), provides exploration vector
- Main mineralization at 1828±30 Ma with resetting at 1437±31Ma, correlates to other uranium districts
- Uranium mineralization comprising the Lac 50 Resource occurs as five individual deposits referred to as: Western Extension, Main Zone, Eastern Extension, Ray and J4 (from west to east respectively)
- These five deposits occur along a strike length of approximately 6 kilometres and have been drilled to a vertical depth of 385 metres



The Proterozoic Dubawnt Supergroup unconformably overlies the Archean greenstone belt at Angilak. Collectively, the units are all part of the Late Aphebian aged Angikuni Lake Subbasin (~1.84-1.78 Ga: Rainbird and Davis, 2007).

A maroon to red basal breccia with large angular fragments composed of locally derived metavolcanic and metasedimentary rocks surrounded by smaller angular to sub-rounded fragments. Fragments are cemented by hematite, carbonate, and trace pitchblende

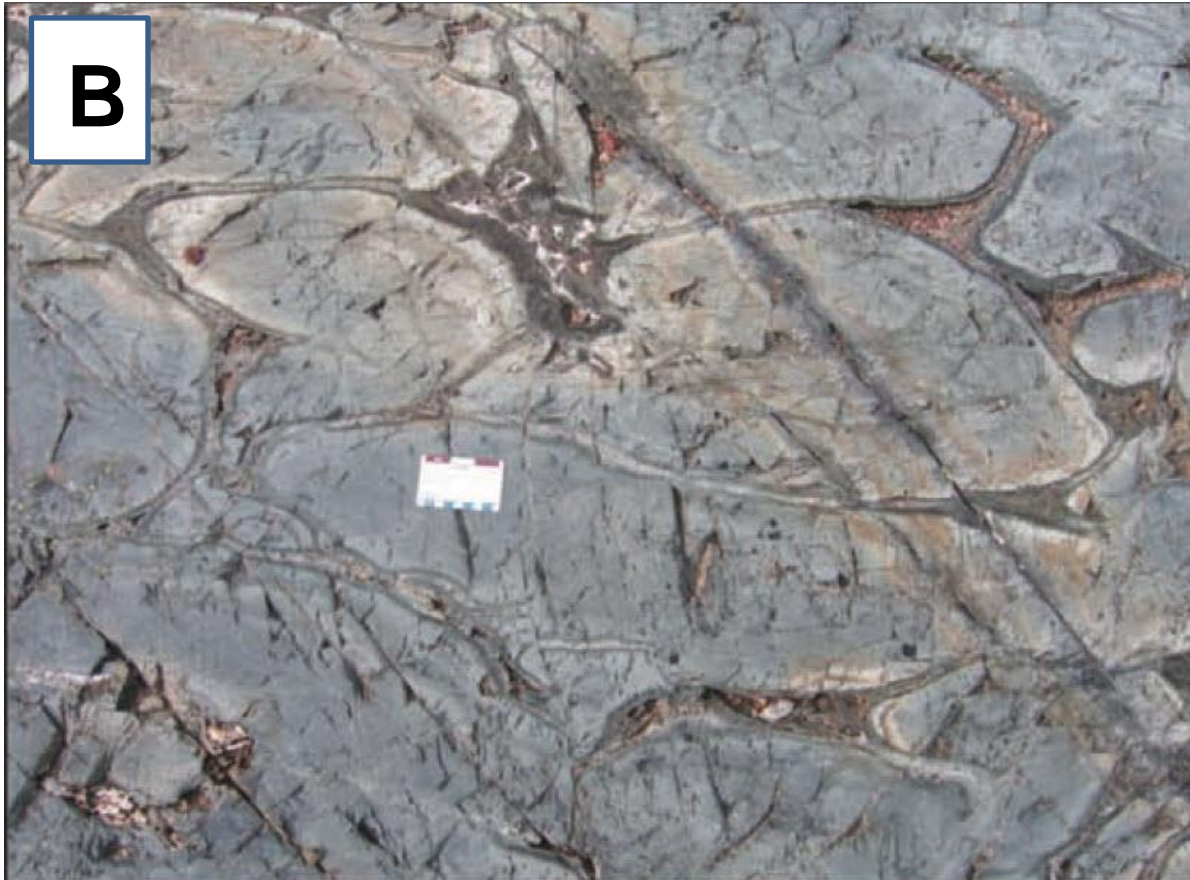
A clast supported conglomerate lies between the basal breccia and sandstone. Clasts include sub-rounded granitics, fine grained metabasalt and diabase . The matrix is fine grained sands and silts with zones of layering and bedding.

A massive, pinkish-red gritty sandstone lies above the conglomerate

At the top and interbedded through the sandstone are Christopher Island volcanics, typically a pinkish-red trachyte.

Pervasive hematite and carbonate alteration is visible throughout.





Basalts comprise the bulk of the greenstone sequence at Angilak and are

They are characterized by fine-grained massive basalt units capped by pillowed flows.

In outcrop, these units appear as massive basalts and stretched pillows. The basalts have a low-grade greenschist facies metabasite mineral assemblage of plagioclase (albite), chlorite, epidote, actinolite, hornblende, and secondary quartz

The Archean greenstone sequence at Angilak is related to the Ennadai-Rankin greenstone belt and comprises what is formerly known as the Henik Group (Eade, 1986). The greenstones have been dated at approximately  $2605 \pm 4$  Ma (Loveridge et al., 1988; Aspler and Chiarenzelli, 1996).



Gabbroic textured units are coarse-grained mafic units with similar chemistry to the basaltic units.

In outcrop these units are identified by their visible mineral grains and dark green-black colour.

While these units are visible in outcrop, their contact relationship with the massive and pillowed basalts is more evident in drill core.

In drill core, coarse-grained gabbros grade into massive textured basalts.

Additionally, there are instances where the gabbros in drill core preserve chilled margins and are most likely late stage sills rather than portions of volcanic flows.



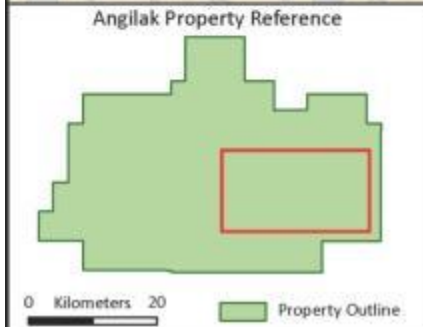
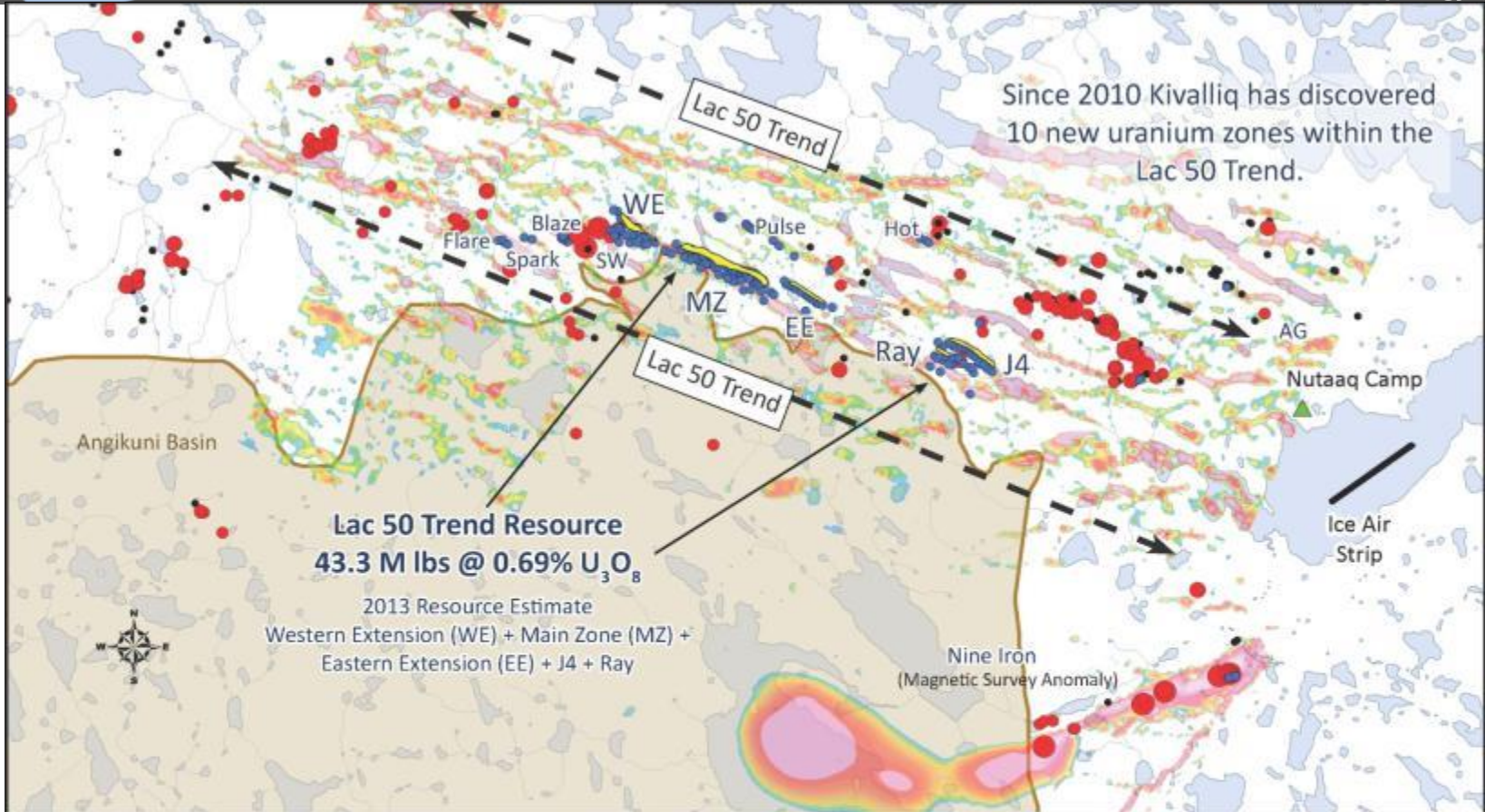


Gash veins cross cutting volcanics are found both in outcrop and drill core and comprise carbonate, hematite, chlorite, sulfide, and pitchblende ( $\pm$  quartz). The veins are generally very narrow at 1 cm to 10cm although a few notable exceptions are known (Blaze). Alteration in to wall rocks surrounding the gash veins is limited to discrete halo's of 10 cm to 30 cm.

- **\$55 million in exploration expenditures at Angilak from 2007 to 2013**
- **89,500 metres drilling in 589 holes (463 core holes / 126 RC holes)**
- **3,714 km ground Mag / VLF EM, gravity, seismic and ohmmapper resistivity surveying**
- **13 new uranium zones discovered:**  
East/West Ext., Blaze, Spark, Pulse, J4, Ray, Hot, Flare, Southwest , J1 , ML and Nine Iron
- **Inferred Resource 43.3M lbs U3O8 in 2,831,000 tonnes grading 0.69% at 0.2% cutoff  
(Released January 2013)**
- **Ongoing geological modeling, metallurgical testing, internal scoping, environmental baseline and archeological studies**
- **Continued emphasis on community consultation**







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LAC 50 TREND  
Angilak Property  
Nunavut Territory, Canada  
**2012 Drilling Program  
PLANVIEW**

January 2013 UTM NAD83 Zone 14 Scale 1:90 000

0 Kilometers 4

Deposit	Tonnes (t x 1000)	U <sub>3</sub> O <sub>8</sub> (%)	Ag (g/t)	Mo (%)	Cu (%)	U <sub>3</sub> O <sub>8</sub> (M lbs)	Ag (oz x 1000)	Mo (M lbs)	Cu (M lbs)
Lac Cinquante	1,906	0.67	16	0.15	0.25	28	983	6.3	10.4
J4 / Ray	925	0.75	30.1	0.20	0.26	15.3	895	4.1	5.2
<b>Total</b>	<b>2,831</b>	<b>0.69</b>	<b>20.6</b>	<b>0.17</b>	<b>0.25</b>	<b>43.3</b>	<b>1,878</b>	<b>10.4</b>	<b>15.6</b>

## Notes

- *At Lac Cinquante, high U<sub>3</sub>O<sub>8</sub> grades were cut to 5% and grade limiting was applied to those grades above 3%. At J4/Ray, high U<sub>3</sub>O<sub>8</sub> grades were cut to 4%*
- *Mineral Resources are not Mineral Reserves. Mineral Resources do not have demonstrated economic viability, and may never be converted into Mineral Reserves.*
- *Contained metal values may not add due to rounding.*



Cut-off U <sub>3</sub> O <sub>8</sub> (%)	Tonnes (T x1000)	U <sub>3</sub> O <sub>8</sub> (%)	Ag (g/t)	Mo (%)	Cu (%)	U <sub>3</sub> O <sub>8</sub> (M lbs)	Ag (oz x 1000)	Mo (M lbs)	Cu (M lbs)
0.1	3,585	0.58	18	0.14	0.23	45.7	2070	11.4	18.4
<b>0.2</b>	<b>2,831</b>	<b>0.69</b>	<b>20.6</b>	<b>0.17</b>	<b>0.25</b>	<b>43.3</b>	<b>1878</b>	<b>10.4</b>	<b>15.6</b>
0.3	2,270	0.80	22.3	0.18	0.25	40.2	1624	9.2	12.6
0.4	1,689	0.96	24.3	0.21	0.25	35.7	1322	7.9	9.4
<b>0.5</b>	1,377	<b>1.08</b>	26.5	0.24	0.25	<b>32.6</b>	1171	7.2	7.7

## Got the grade – Resource remains robust with increased cut-off grades

- The updated Mineral Resource estimate for the Lac 50 Trend deposits was prepared under the direction of Robert Sim, P.Geo. of SIM Geological Inc. Resource models were generated using drill core sample assay results and interpretation of a geological model relating to spatial distribution of uranium deposits within the Lac 50 Trend, i.e. Lac Cinquante (Main, Eastern and Western Extension Zones), J4 and Ray deposits. All assay and geological information was derived from work conducted by Kivalliq as part of exploration programs between 2009 and 2012 and available at December 31, 2012. At a base case cut-off grade of 0.2% U<sub>3</sub>O<sub>8</sub>, an Inferred Mineral Resource is estimated at 2,831,000 tonnes grading 0.69% U<sub>3</sub>O<sub>8</sub>, containing 43.3 million lbs. U<sub>3</sub>O<sub>8</sub>. For evaluation purposes, three additional metals: silver (Ag g/t), molybdenum (Mo %) and copper (Cu %) have also been estimated within the resource model.

**Drilled 2,101 metres in 14 holes - Two new zones discovered : ML Zone and J1 Zone**

**DDH 13-ML-001 intersected 4.3m (est. true width) at 0.46% U<sub>3</sub>O<sub>8</sub>, 0.48% Cu, 0.15% Mo & 53.6 g/t Ag**

**DDH 13-J1-003 intersected 1.1m (0.6m est true width) at 0.56% U<sub>3</sub>O<sub>8</sub> , 0.05% Cu, 0.28% Mo, 15.5g/t Ag**

**984 line km of geophysical surveying: Ohmmapper Coupled Resistivity, Mag / VLF EM**

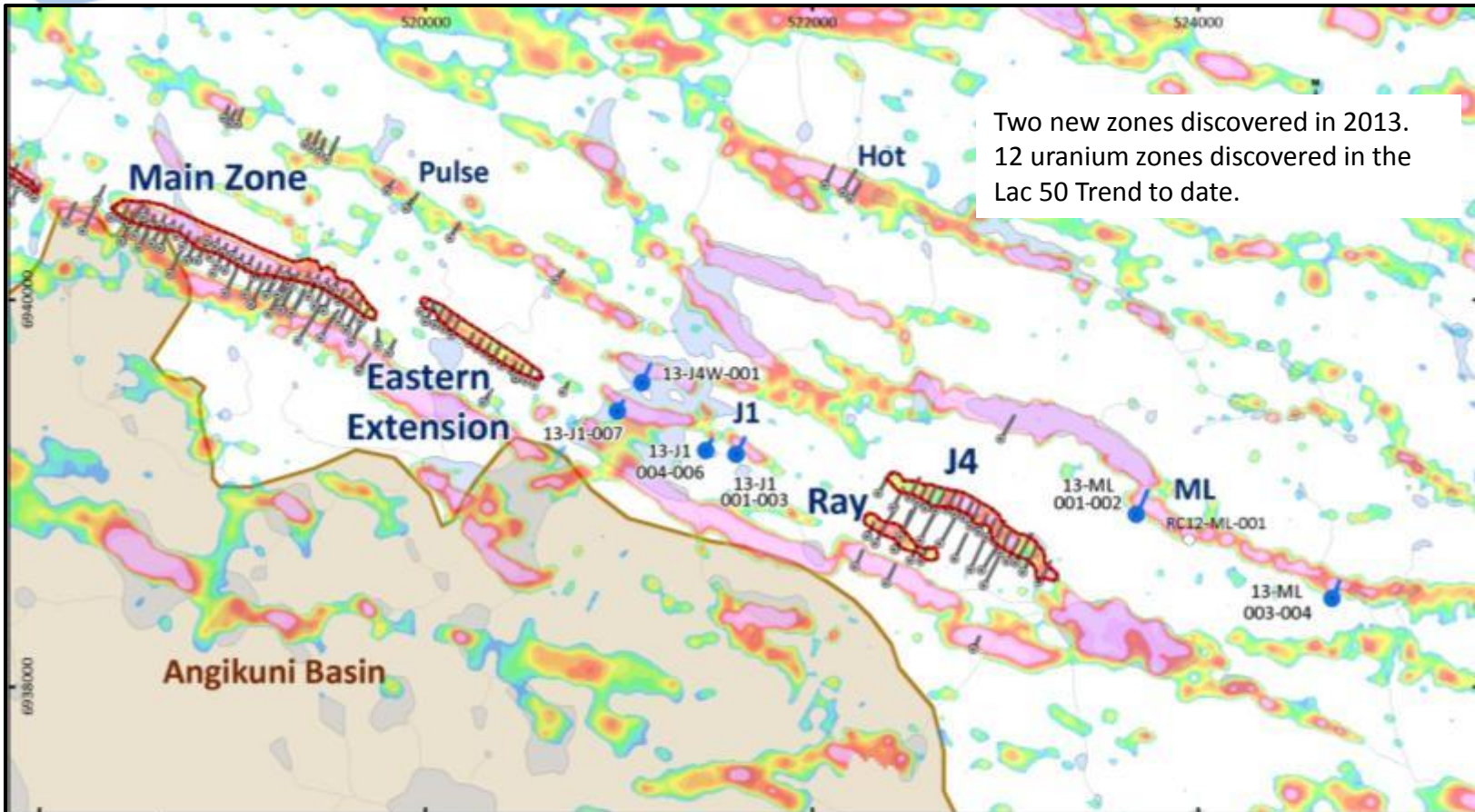
**Geological mapping, prospecting, and 1743 soil geochemical samples**

**Mining and processing optimization and metallurgical testing**

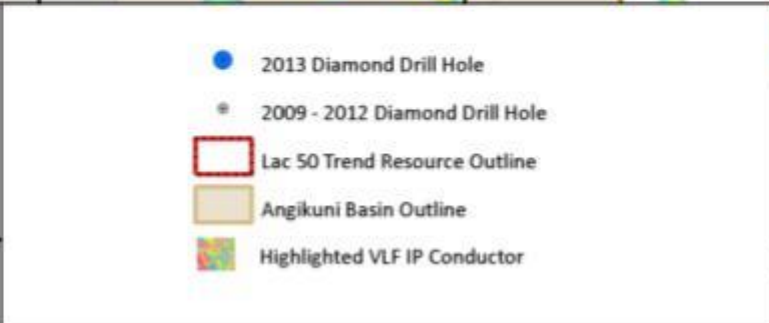
**Ongoing community consultation, and baseline environmental studies**







Two new zones discovered in 2013. 12 uranium zones discovered in the Lac 50 Trend to date.



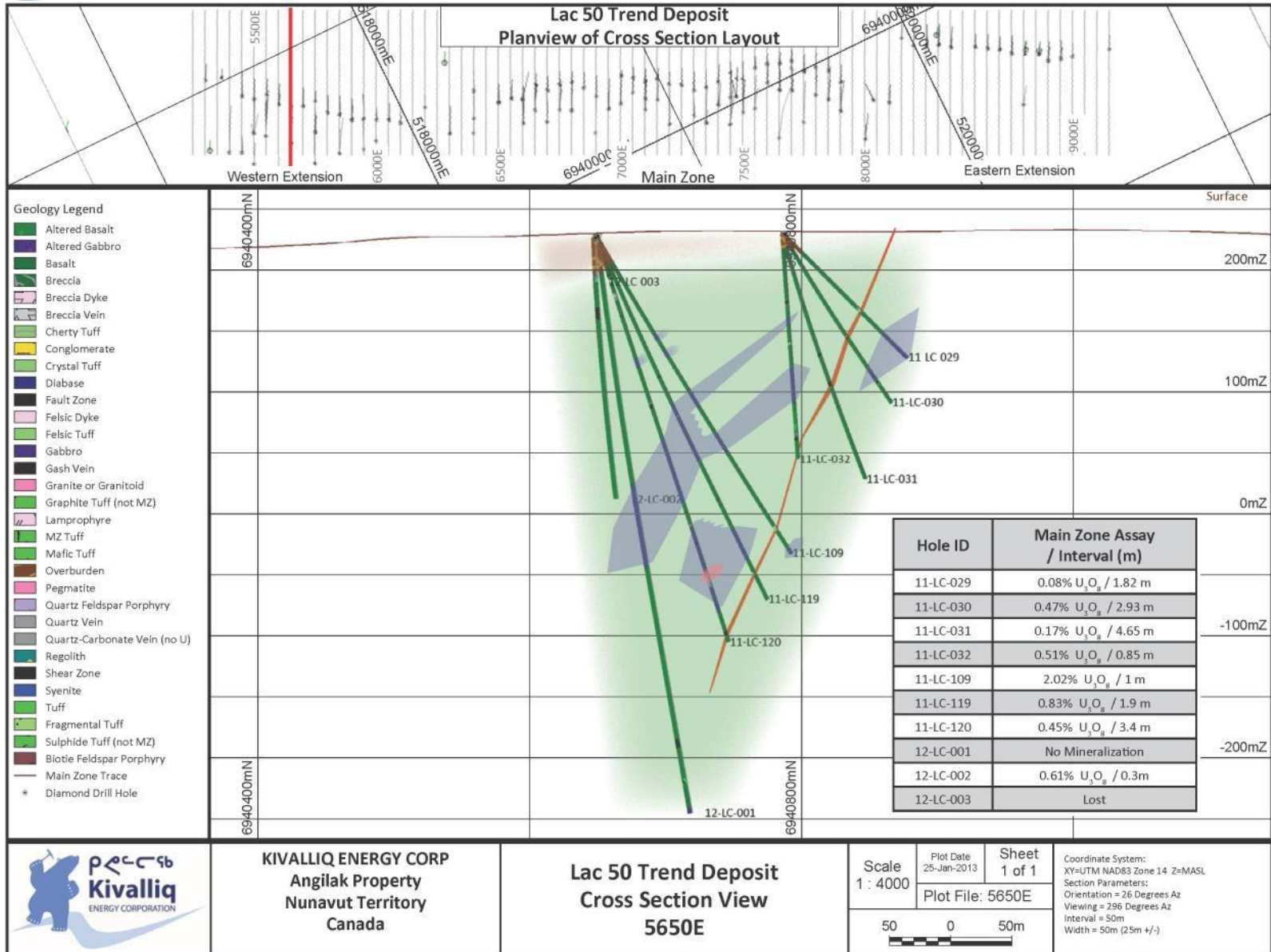
**KIVALLIQ ENERGY CORP.**

LAC 50 TREND  
Winter 2013 Drilling  
PLANVIEW

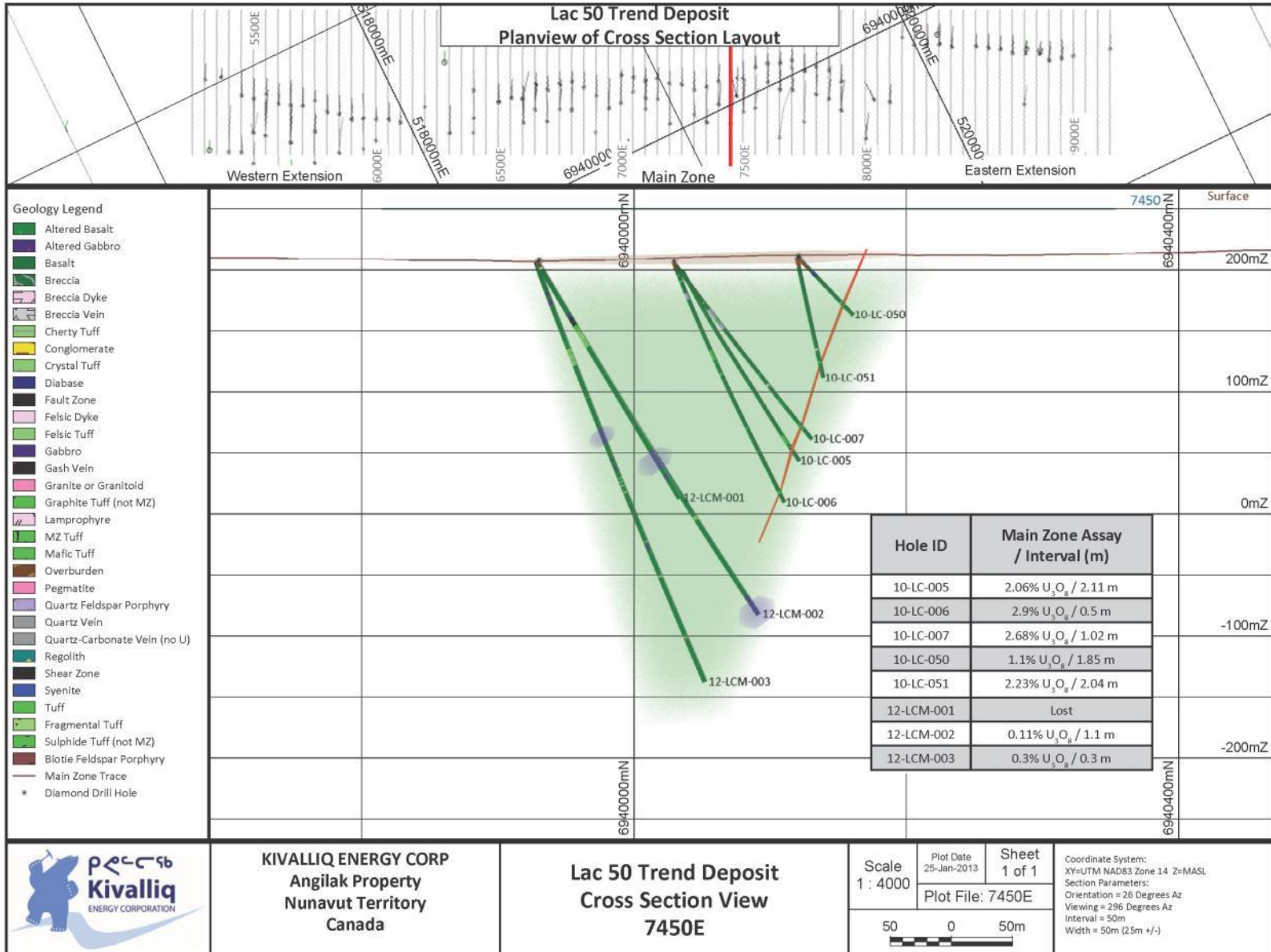
Angilak Property  
Nunavut Territory, Canada

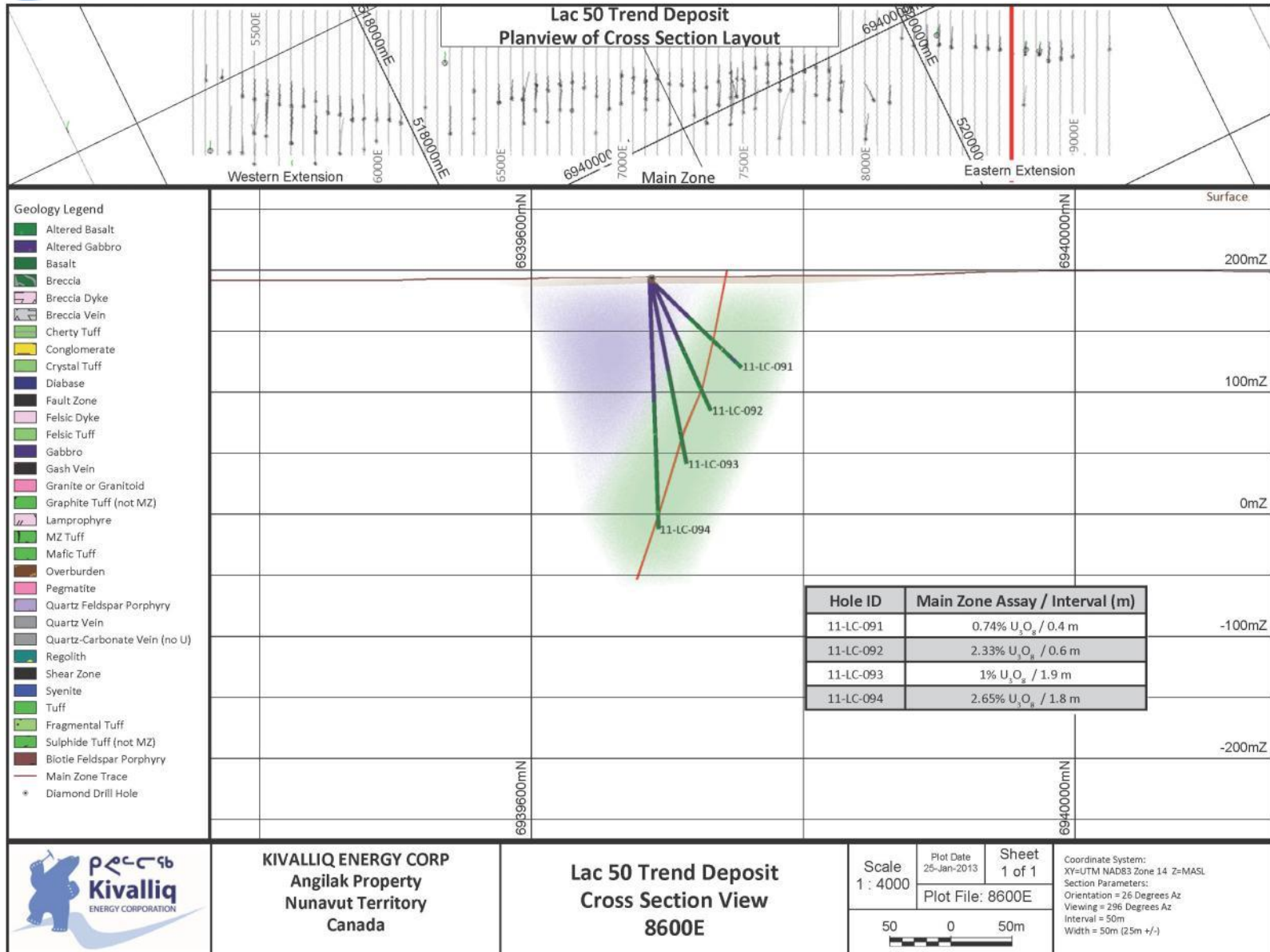
May 2013    UTM NAD83 Zone 14    Scale 1:30 000

0    Meters    1,500

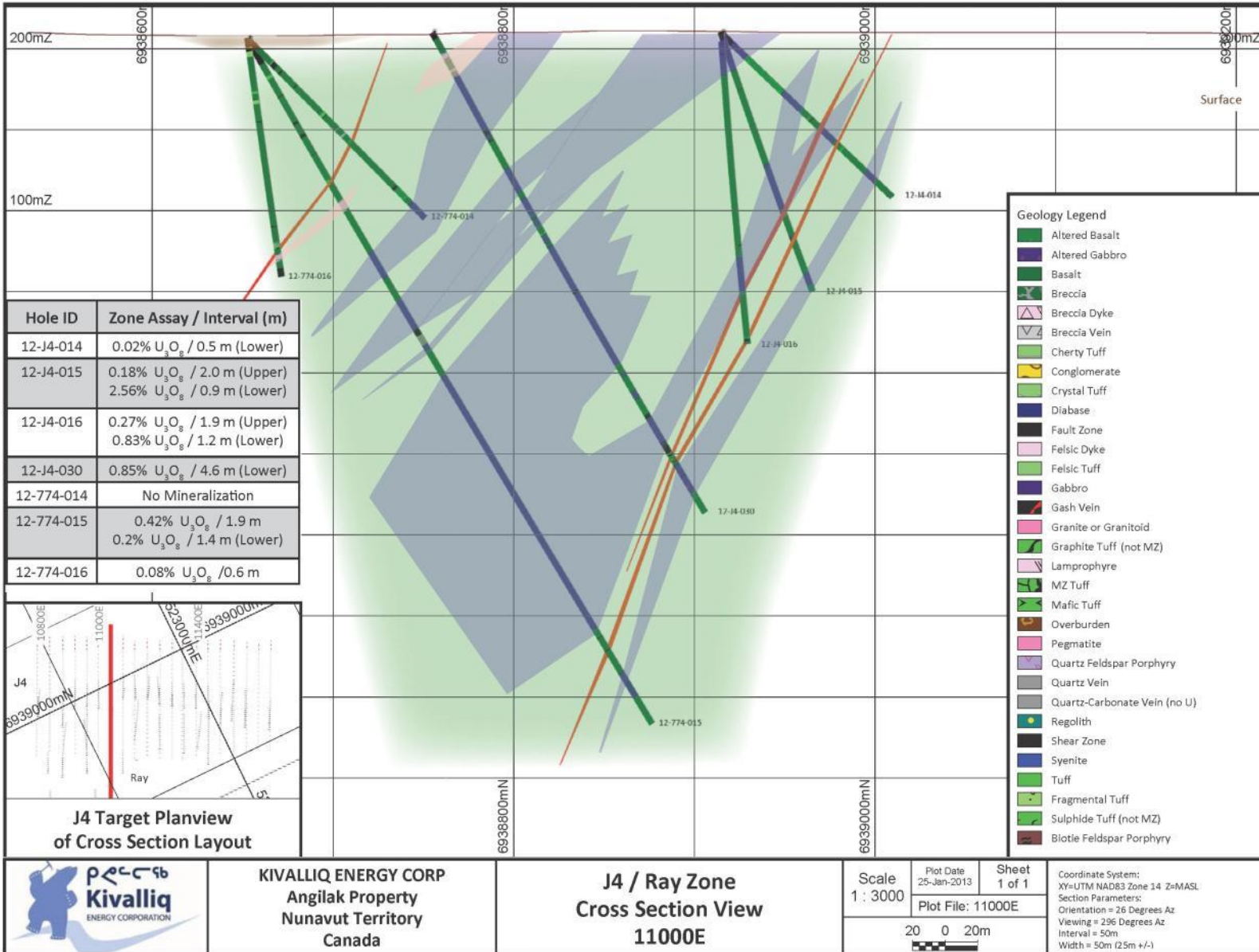




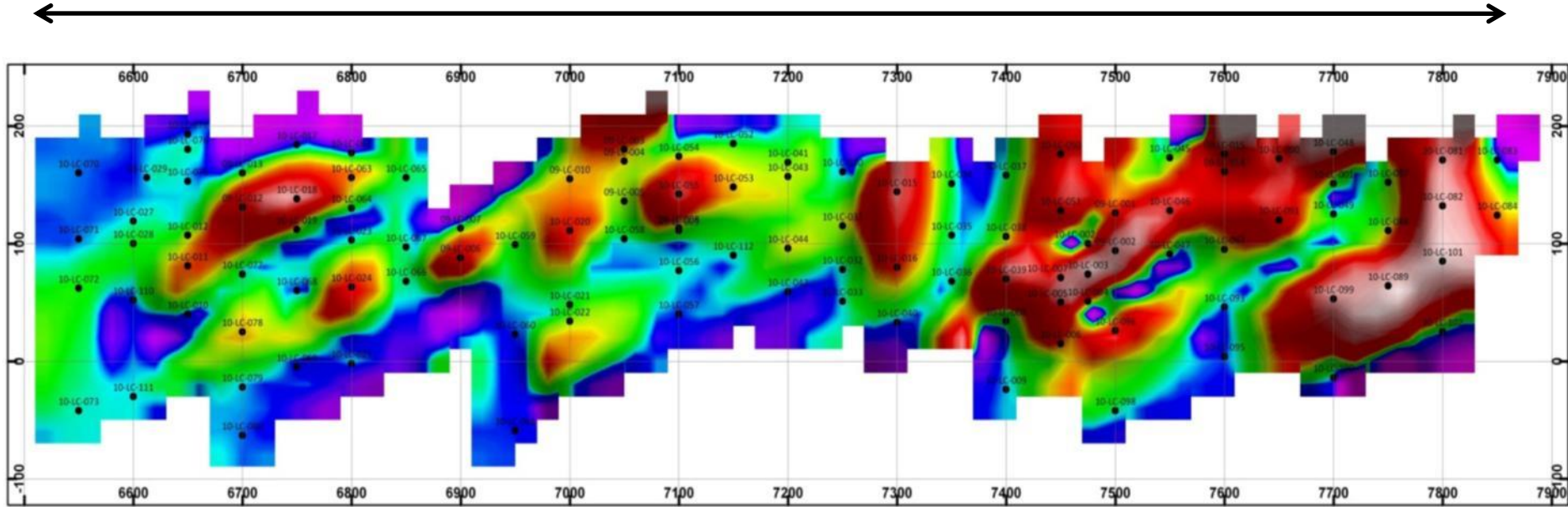








1.35 km Strike Length

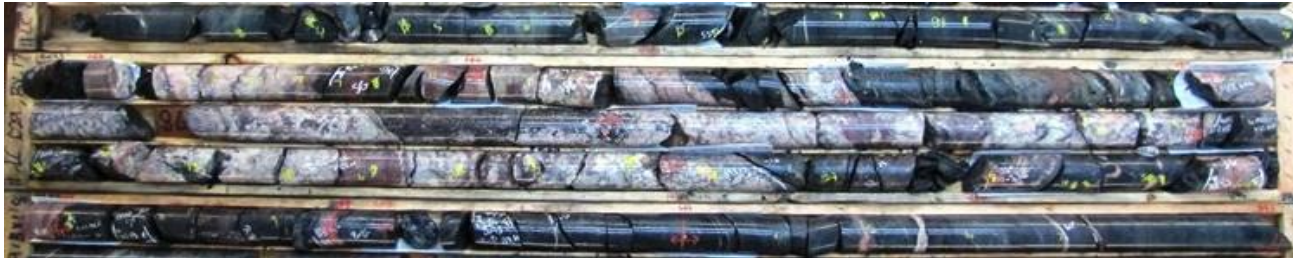


Lac 50 Main Zone - Drill Hole Long Section

Colour Contour Plot

Grade (U3O8) X True Width (m)





11-LC-029 Main Zone HW 84.4m to 84.9m = 0.25% U3O8 / 0.5m (0.5mTW)  
 & Main Zone FW 87.2m to 89.0m = 0.08% U3O8 / 1.8m (1.6mTW)



11-LC-030 Main Zone 97.1m to 100.0m = 0.47% U3O8 / 2.9m ( 2.4m TW)



11-LC-031 Main Zone 127.9m to 132.5m = 0.17% U3O8 / 4.7m (3.0m TW)



11-LC-032 Main Zone 167.5m to 168.4m = 0.51% U3O8 / 0.9m (0.4m TW)



11-LC-029 Main Zone HW 84.4m to 84.9m = 0.25% U<sub>3</sub>O<sub>8</sub> / 0.5m (0.5mTW)  
& Main Zone FW 87.2m to 89.0m = 0.08% U<sub>3</sub>O<sub>8</sub> / 1.8m (1.6mTW)



11-LC-030 Main Zone 97.1m to 100.0m = 0.47% U<sub>3</sub>O<sub>8</sub> / 2.9m ( 2.4m TW)

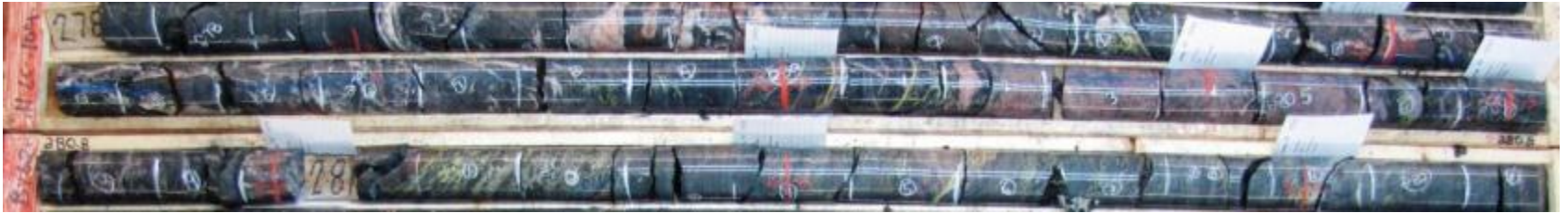


11-LC-031 Main Zone 127.9m to 132.5m = 0.17% U<sub>3</sub>O<sub>8</sub> / 4.7m (3.0m TW)



11-LC-032 Main Zone 167.5m to 168.4m = 0.51% U<sub>3</sub>O<sub>8</sub> / 0.9m (0.4m TW)





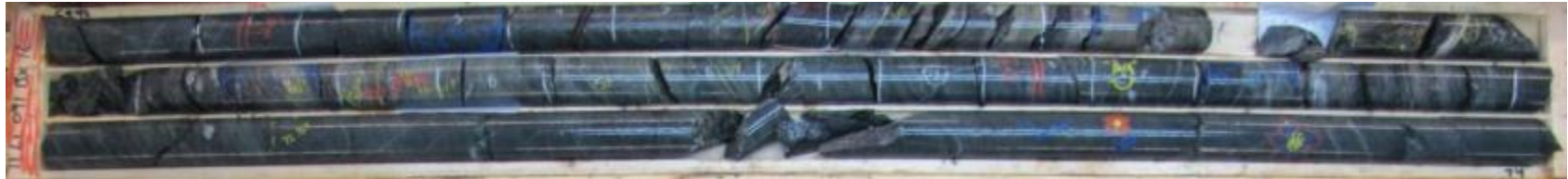
11-LC-109 Main Zone 280.0m to 281.0m = 2.02% U308 / 1.0m (0.8mTW)



11-LC-119 Main Zone 303.6m to 305.5m = 0.83% U308 / 1.9m (1.5mTW)



11-LC-120 Main Zone 340.8m to 344.2m = 0.45% U308 / 3.4m (2.3mTW)



11-LC-091 MZ 70.0 to 71.0m = 0.74% U<sub>3</sub>O<sub>8</sub> / 1.0m (0.4mTW)



11-LC-092 MZ 98.5 to 99.1 = 2.33 % U<sub>3</sub>O<sub>8</sub> / 0.6 m (0.4mTW)



11-LC-093 MZ 127.2 to 129.1m = 1.00 % U<sub>3</sub>O<sub>8</sub> / 1.9m (1.0mTW)



11-LC-094 MZ 190.6 to 192.4m = 2.65 % U<sub>3</sub>O<sub>8</sub> / 1.8m (0.5mTW)





12-J4-003 Upper 87.7 to 89.1m = 1.91% U<sub>3</sub>O<sub>8</sub> / 1.3m (1.1mTW)



12-J4-028 Upper 87.0 to 87.9m = 3.91 % U<sub>3</sub>O<sub>8</sub> / 0.9m (0.9mTW)



12-J4-029 Lower 153.5 to 159.6m = 2.42 % U<sub>3</sub>O<sub>8</sub> / 6.1m (3.8mTW)





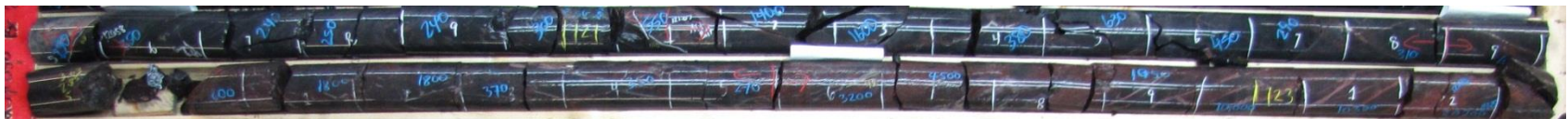
12-J4-030 Lower 299.8 to 304.4m = 0.85 % U3O8 / 4.6m (3.9mTW)



12-J4-038 Upper 99.0 to 100.5m = 2.86% U3O8 / 1.5m (1.5mTW)

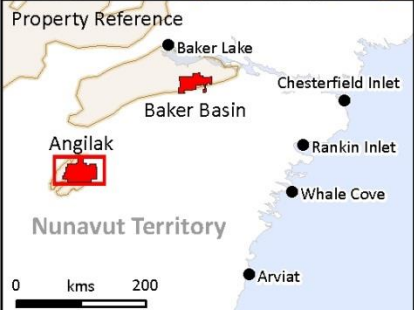
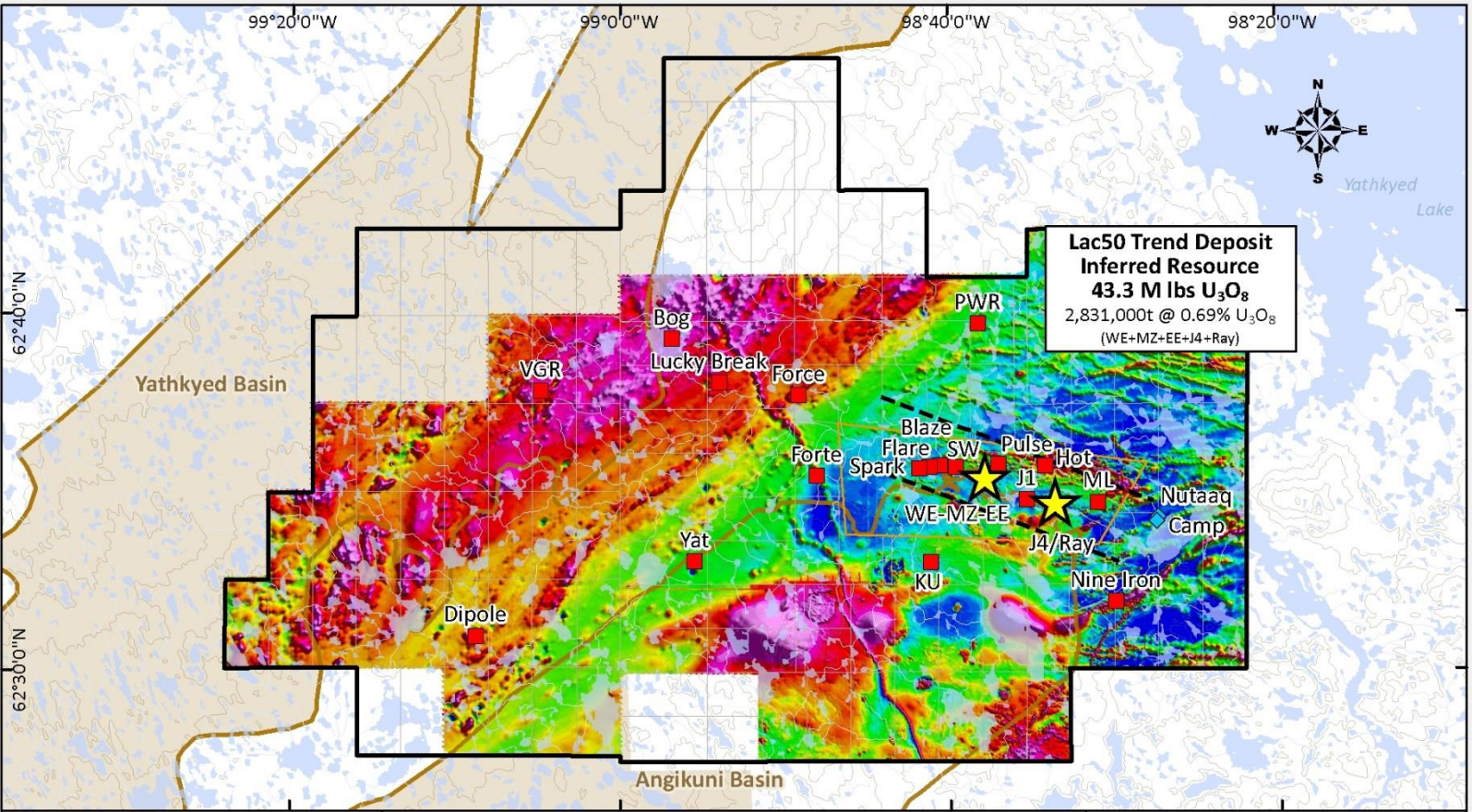


12-J4-050 Upper 114.9 to 117.54m = 1.77 % U3O8 / 2.6m (2.1mTW)



12-J4-050 Upper 122.6 to 123.5m = 1.24% U3O8 / 0.9m (0.7mTW)





**KIVALLIQ ENERGY CORP.**

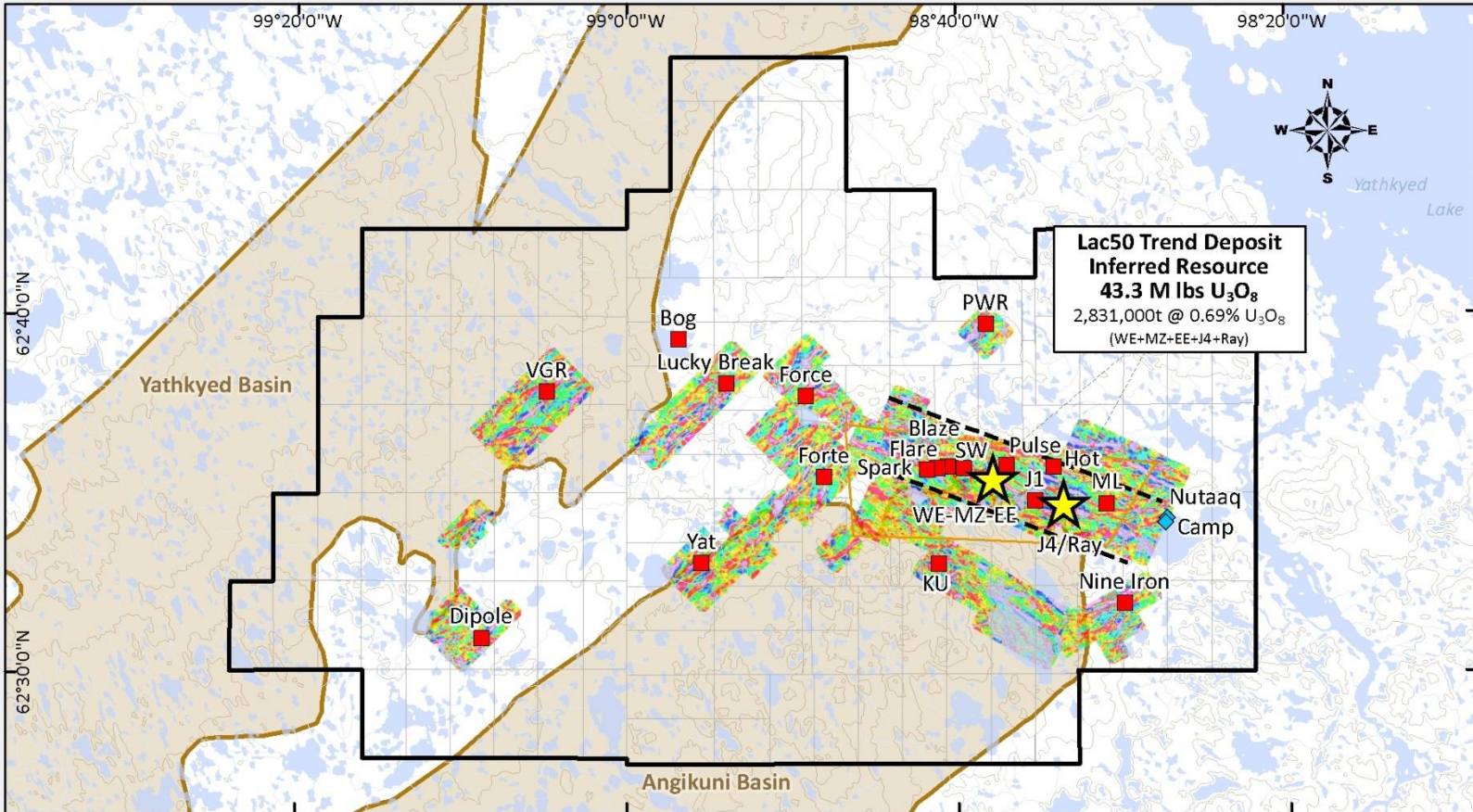
**Angilak Property**  
 Nunavut Territory, Canada

**Airborne Geophysical Survey**

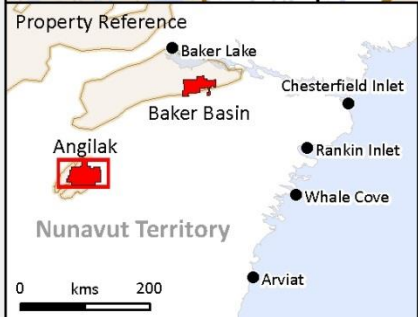
April 2014    UTM NAD83 Zone 15    Scale 1:300 000

0    15  
 Kilometers





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Inferred Resource**  
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(WE+MZ+EE+J4+Ray)



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**Angilak Property**  
Nunavut Territory, Canada

**Ground Geophysical Survey**

April 2014    UTM NAD83 Zone 15    Scale 1:300 000

0                      Kilometers                      15



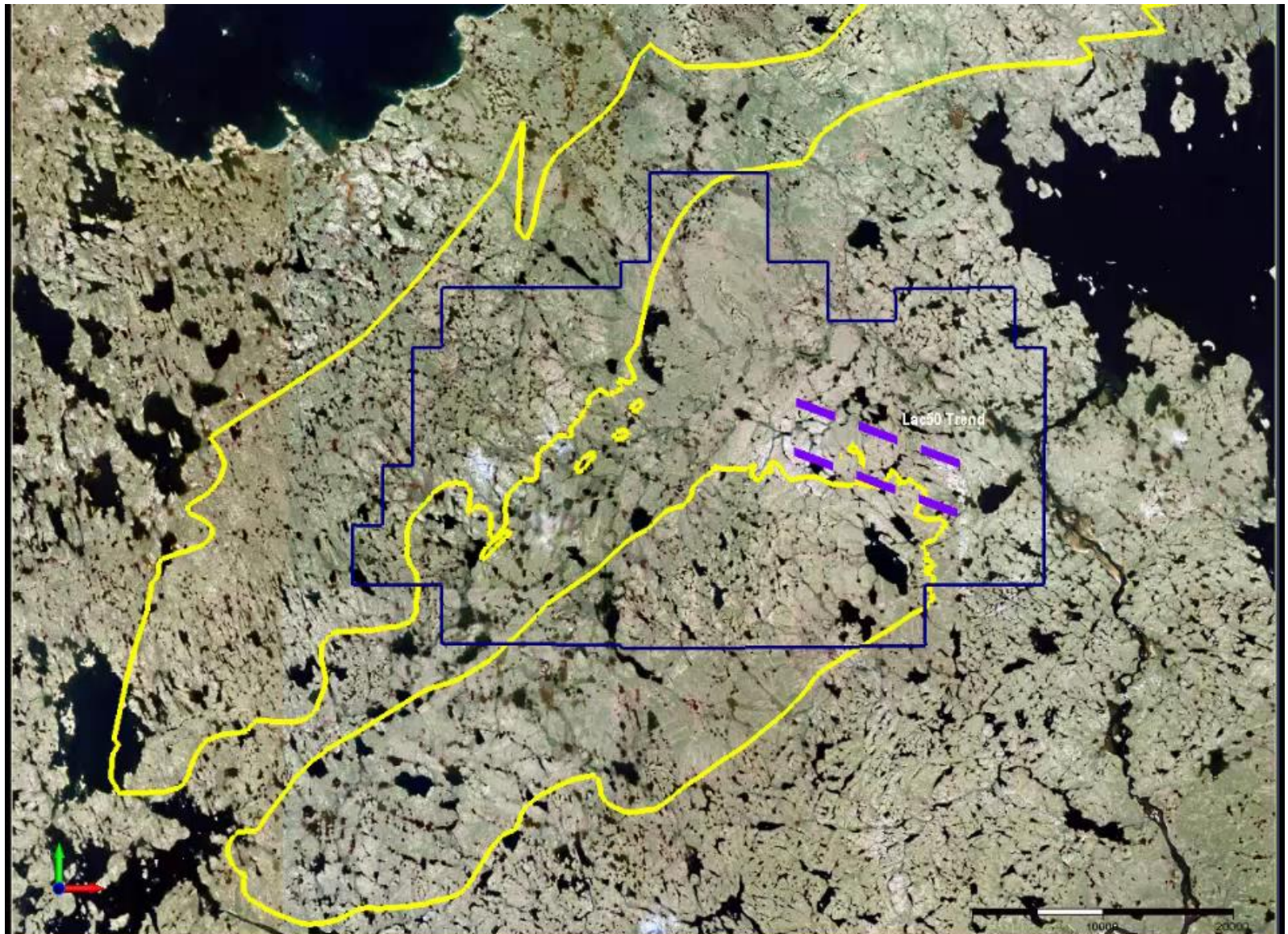
## DIPOLE SHOWING View East

Ground VLF In Phase Survey  
Axis of Conductor 2 km

Radioactive Boulders  
and Sand on Shoreline

















Arviat



- Strong relationship with partner NTI
- Up to 10 hires from the Kivalliq Region annually
- Total \$55 million spent at Angilak to date
- >50% of annual exploration expenditures in northern communities
- Annual community consultation meetings
- Regular community leader site visits

Rankin Inlet



Baker Lake













## The Company

- Specifically formed in 2008 to develop the Lac Cinquante uranium deposit in partnership with NTI
- Lac 50 Trend Uranium Resource is Canada's highest grade uranium resource outside the Athabasca Basin
- \$55 million spent to date on the Angilak Property in Kivalliq Region, Nunavut

## Management

- A team of northern exploration specialists
- Proven track record of recognizing world-class assets

- |                        |                     |
|------------------------|---------------------|
| • <b>Chairman</b>      | John Robins, P.Geo. |
| • <b>CEO, Director</b> | Jim Paterson        |
| • <b>President</b>     | Jeff Ward, P.Geo    |
| • <b>COO</b>           | Andrew Berry        |

