

# CAMECO CORPORATION 2012 TURQAVIK - ABERDEEN PROJECTS EXPLORATION ACTIVITIES AND SITE RECLAMATION

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# CAMECO CORPORATION 2012 TURQAVIK - ABERDEEN PROJECTS EXPLORATION ACTIVITIES AND SITE RECLAMATION

# 1.0 <u>DESCRIPTION OF 2012 EXPLORATION ACTIVITIES AND SITE</u> RECLAMATION

The Turqavik – Aberdeen Projects 2012 field season lasted from May 2<sup>nd</sup> to September 21<sup>st</sup>, 2012. Diamond drilling on the projects commenced starting June 23<sup>rd</sup> and ended September 15<sup>th</sup>. 2012. Construction of a new exploration camp on Aberdeen Lake was completed in 2012 with the old camp at Qamanaarjuk Lake remaining under care and maintenance. The exploration program included diamond drilling and ground gravity geophysical surveying as well as exploration related environmental monitoring. Details of the water intake techniques, water monitoring and waste management at the camp, as well as at the drill sites are described in the Annual Report. The following is a brief description of the work with photographs of site/grid conditions before and after completion of operations. Thirty-three drill holes totalling 9,510 m were completed as part of the 2012 diamond drilling program. Uranium mineralization was intersected sporadically in 5 drill holes in proximity to known mineralization encountered in 2010 and 2011 on the Tatiggaq zone. Drill return water and cuttings generated during the drilling process were separated when drill holes encountered or were expected to be mineralized. All drill cuttings, return water and drill sites were inspected with an AutoMess 6150 AD 6 Dose Rate Meter (calibrated annually) to ensure cuttings and site are below 0.05% uranium concentration. Due to narrow intervals and overall low grades of mineralization encountered, all bags of collected cuttings fell below 0.05% uranium concentration. Holes drilled on the Turqavik Project included TUR-048 to TUR-062 representing both reconnaissance and Tatiggaq zone drill holes (formerly Gerhard zone) including one restart (TUR-052B) all drilled on the Gerhard Grid. GEX-003 was drilled on the Gerhard Extension grid, LOB-001 to LOB-003 were drilled on the Lobster Lake grids, JSF-001 was drilled on the Judge Sissons Fault grid, HND-002 was drilled on the Hound grid, and MAM-001A/001B and MAM-002 were drilled on the Mammoth grid with one restart (MAM-001B). Diamond drilling on the Aberdeen project in 2012 was conducted on the Sansa Grid (Oavvik zone formerly Sansa zone) SAN-023 to SAN-026, Ayra grid AYA-009 and AYA-010, and Sandbould grid (SNB-001 to SNB-002).

#### 2.0 GERHARD GRID (TATIGGAQZONE)

A large focus of the drilling activity on the Turqavik property consisted of drill holes completed on the Gerhard Grid. Drilling focused on extending mineralization identified in 2010 and 2011 on the Tatiggaq zone (formerly Gerhard zone) as well as testing regional exploration targets on the grid. Drill holes testing for mineralization proximal to the Tatiggaq zone were spaced approximately 25-50 m apart on NW-SE trending grid lines. A majority of these drill holes utilized the same water source and cutting sump. All cuttings, return water and drill sites were inspected with an AutoMess 6150 AD 6 Dose Rate Meter to ensure cuttings and sites are below 0.05% uranium concentration. All collected bags fell below 0.05% uranium concentration.

#### 2.1 TUR-048

Location: Latitude - 64°20'29.94" Longitude - 97°59'07.65"

Drilling of TUR-048 on the Tatiggaq zone commenced June 23<sup>rd</sup> and was completed June 27<sup>th</sup>. Water for the drill hole was sourced 365 m to the west from Gerhard Lake. No mineralization was intersected in the drill hole, return water and cuttings were pumped to the sump 50 m to the west. Casing pulled, top of hole cemented.

#### 2.2 TUR-049

Location: Latitude - 64°20'26.17" Longitude - 97°59'31.30"

Drilling of TUR-049 on the Tatiggaq zone commenced June 27<sup>th</sup> and was completed July 1<sup>st</sup>. Water for the drill hole was sourced 160 m to the west from Gerhard Lake. Weak mineralization was intersected in the drill hole, cuttings were collected and bagged, mineralized interval cemented off. Casing pulled, top of hole cemented.

#### 2.3 TUR-050

Location: Latitude - 64°20'31.62" Longitude - 97°59'05.73"

Drilling of TUR-050 on the Tatiggaq zone commenced June 28<sup>th</sup> and was completed July 4<sup>th</sup>. Water for the drill hole was sourced from Gerhard Lake 390 m to the west. No mineralization was intersected in the drill hole, return water and cuttings were pumped to the sump 90 m to the southwest. Casing pulled, top of hole cemented.

#### 2.4 TUR-051

Location: Latitude - 64°20'25.10" Longitude - 97°59'28.49"

Drilling of TUR-051 on the Tatiggaq zone commenced July 2<sup>nd</sup> and was completed July 5<sup>th</sup>. Water for the drill hole was sourced from Gerhard Lake approximately 200 m to the northwest. No mineralization was intersected in the drill hole, return water and cuttings were pumped to the sump 270 m to the northeast. Casing pulled, top of hole cemented.

#### 2.5 <u>TUR-052A/B</u>

Location: Latitude - 64°20'26.09" Longitude - 97°59'25.57"

Drilling of TUR-052A/B on the Tatiggaq zone commenced July 4<sup>th</sup> and was completed July 11<sup>th</sup>. Water for the drill holes was sourced from Gerhard Lake 200 m to the northwest. TUR-052A was lost at depth within a mineralized interval and was restarted from the same setup by swallowing the dip of the drill hole. Mineralization was intersected in the drill holes, cuttings were collected and bagged, and the mineralized intervals cemented off. Return water was directed to the sump approximately 220 m to the northeast. Casing pulled, top of holes cemented.

#### 2.6 TUR-053

Location: Latitude - 64°20'27.14" Longitude - 97°59'34.37"

Drilling of TUR-053 on the Tatiggaq zone commenced July 5<sup>th</sup> and was completed July 9<sup>th</sup>. Water for the drill hole was sourced from Gerhard Lake 125 m to the north. No mineralization was intersected in the drill hole, return water and cuttings were pumped to the sump 320 m to the northeast. Casing pulled, top of hole cemented.

#### 2.7 TUR-054

Location: Latitude - 64°20'28.13" Longitude - 97°59'11.82"

Drilling of TUR-054 on the Tatiggaq zone commenced July 9<sup>th</sup> and was completed July 15<sup>th</sup>. Water for the drill hole was sourced from Gerhard Lake 320 m to the northwest. No mineralization was intersected in the drill hole, return water and cuttings were pumped to the sump 55 m to the north. Casing pulled, top of hole cemented.

#### 2.8 <u>TUR-055</u>

Location: Latitude - 64°20'27.17" Longitude - 97°59'28.46"

Drilling of TUR-055 on Tatiggaq zone commenced on July 11<sup>th</sup> and was completed July 16<sup>th</sup>. Water for the drill hole was sourced from Gerhard Lake 150 m to the northwest. No mineralization was intersected in the drill hole, return water and cuttings were pumped to the sump 240 m to the northeast. Casing pulled, top of hole cemented.

#### 2.9 **TUR-056**

Location: Latitude - 64°20'26.95" Longitude - 97°59'22.62"

Drilling of TUR-056 on the Tatiggaq West zone commenced July 17<sup>th</sup> and was completed July 19<sup>th</sup>. Water for the drill hole was sourced Gerhard Lake 200 m to the northwest. Mineralization was intersected in the drill hole, cuttings were collected and bagged, and the mineralized interval cemented off. Return water was directed to the sump 175 m to the northeast. Casing pulled, top of hole cemented.

#### 2.10 TUR-057

Location: Latitude - 64°20'27.86" Longitude - 97°59'19.61"

Drilling of TUR-057 on the Tatiggaq West zone commenced July 16<sup>th</sup> and was completed July 18<sup>th</sup>. Water for the drill hole was sourced from Gerhard Lake 220 m to the northwest of the drill hole. No mineralization was intersected in the drill hole, return water and cuttings were pumped to the sump 125 m to the northeast. Casing pulled, top of hole cemented.

#### 2.11 <u>TUR-058</u>

Location: Latitude - 64°20'27.53" Longitude - 97°59'24.02"

Drilling of TUR-058 on the Tatiggaq zone commenced July 20<sup>th</sup> and was completed July 22<sup>nd</sup>. Water for the drill hole was sourced from Gerhard Lake 180 m to the northwest. Mineralization was intersected in the drill hole, cuttings were collected and bagged, and the mineralized interval cemented off. Return water was pumped to the sump 180 m to the northeast. Casing pulled, top of hole cemented.

#### 2.12 TUR-059

Location: Latitude - 64°20'28.46" Longitude - 97°59'20.95"

Drilling of TUR-059 on the Tatiggaq West zone commenced July 20<sup>th</sup> and was completed July 23<sup>rd</sup>. Water for the drill hole was sourced from the lake approximately 200 m northwest of the drill hole. No mineralization was intersected in the drill hole, return water and cuttings were pumped to the sump 130 m to the northeast.

#### 2.13 TUR-060

Location: Latitude - 64°20'41.19" Longitude - 97°59'15.90"

Drilling of TUR-060 at the northern portion of the Gerhard grid commenced July 25<sup>th</sup> and was completed August 1<sup>st</sup>. Water for the drill hole was sourced from Gerhard Lake 400 m to the southwest. No mineralization was intersected in the drill hole, return water and cuttings were pumped to the sump 350 m to the south. Casing pulled, top of hole cemented.

#### 2.14 <u>TUR-061</u>

Location: Latitude - 64°20'38.41" Longitude - 97°58'40.02"

Drilling of TUR-061 to the northeast of the Tatiggaq Zone commenced August 2<sup>nd</sup> and was completed August 4<sup>th</sup>. Water for the drill hole was sourced from Gerhard Lake 770 m to the west. No mineralization was intersected in the drill hole, return water and cuttings were pumped to a sump consisting of a natural depression 50 m to the north of the drill hole. Casing pulled, top of hole cemented.

#### 2.15 TUR-062

Location: Latitude - 64°20'48.46" Longitude - 97°58'34.56"

Drilling of TUR-062 on the Gerhard grid commenced August 5<sup>th</sup> and was completed August 10<sup>th</sup>. Water for the drill hole was sourced from a lake 280 m to the northeast. No mineralization was intersected in the drill hole, return water and cuttings were pumped to the sump utilized by TUR-061, 280 m to the south. Casing pulled, top of hole cemented.



Figure 1: Gerhard Grid prior to drilling



Figure 2: TUR-048 during drilling



Figure 3: Aerial photo of TUR-050 during drilling



Figure 4: TUR-053 during drilling

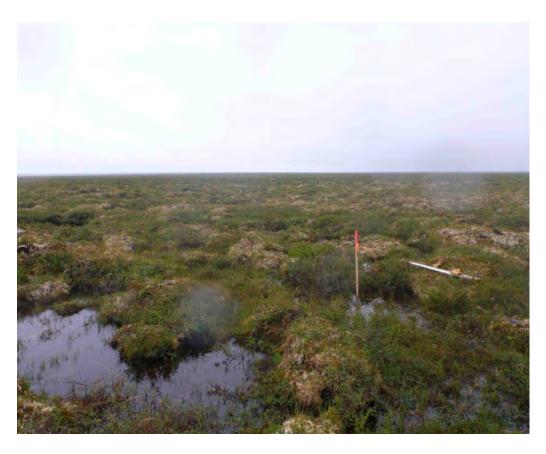


Figure 5: TUR-060 before drilling



Figure 6: TUR-061 before drilling



Figure 7: Spotting TUR-062



Figure 8: TUR-048 following drilling

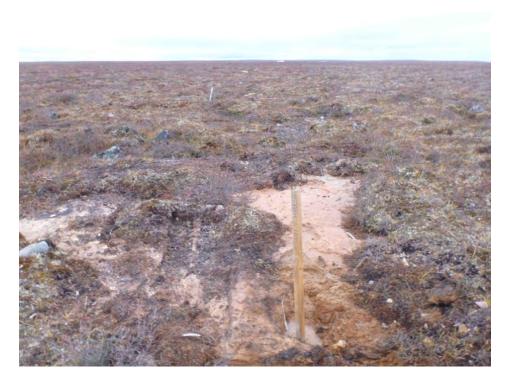


Figure 9: TUR-049 following drilling

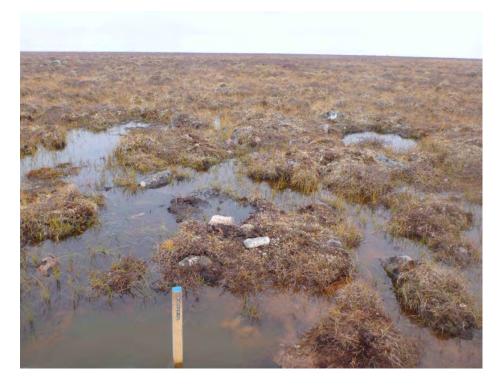


Figure 10: TUR-050 following drilling



Figure 11: TUR-051 following drilling



Figure 12: TUR-052A+B following drilling



Figure 13: TUR-053 following drilling

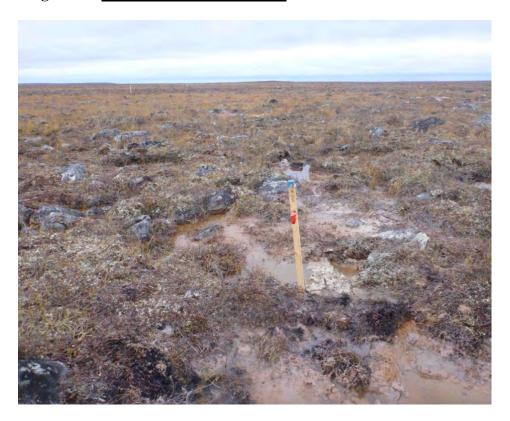


Figure 14: TUR-054 following drilling



Figure 15: TUR-055 following drilling



Figure 16: TUR-056 following drilling



Figure 17: TUR-057 following drilling



Figure 18: TUR-058 following drilling

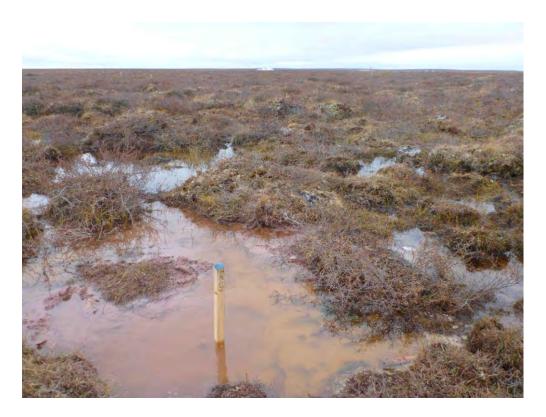


Figure 19: TUR-059 following drilling



Figure 20: TUR-060 following drilling



Figure 21: Aerial photo of TUR-061 following drilling



Figure 22: TUR-062 following drilling



Figure 23: Gerhard Grid cuttings sump



Figure 24: <u>Tatiggaq West zone following drilling</u>

#### 3.0 GERHARD EXTENSION GRID

One hole was drilled on the Gerhard Extension grid on the Turqavik project. Drilling of GEX-003 commenced July 25<sup>th</sup> and was completed July 28<sup>th</sup>. The drill hole tested a regional exploration target along trend of the Gerhard grid approximately 1.4 km to the southwest of the Tatiggaq zone.

#### 3.1 **GEX-003**

Location: Latitude - 64°20'20.90" Longitude - 98°01'14.16"

Water for the drill hole was sourced from Gerhard Lake approximately 300 m to the northwest. No mineralization was intersected in the drill hole, return water and cuttings were pumped to the sump 250 m to the southeast. Casing pulled, top of hole cemented.

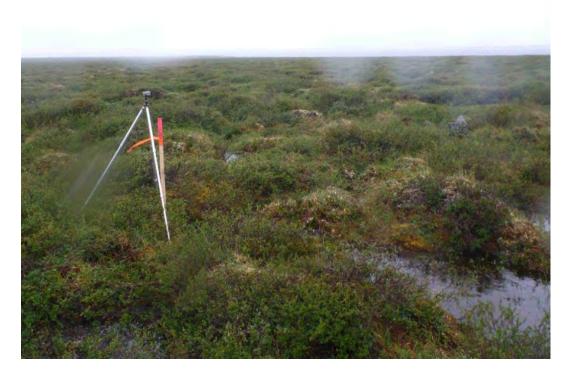


Figure 25: Spotting GEX-003



Figure 26: GEX-003 following drilling

#### 4.0 LOBSTER GRID

Three holes were drilled in the Lobster Lake area at the southern portion of the Turqavik Project on the Lobster Lake gravity grids situated along the Judge Sissons fault zone. Drilling commenced August 2<sup>nd</sup> and was completed August 18<sup>th</sup>. The drill holes tested regional gravity targets on the grids. Waste water for the drill holes utilized natural depressions proximal to the drill holes as sumps for return water disposal.

#### 4.1 <u>LOB-001</u>

Location: Latitude - 64°19'59.26" Longitude - 98°05'59.93"

Water for the drill hole was sourced from Lobster Lake approximately 560 m to the southwest. No mineralization was intersected in the drill hole, return water and cuttings were pumped to the sump 50 m to the north. Casing pulled, top of hole cemented.

#### 4.2 LOB-002

Location: Latitude - 64°19'50.83" Longitude - 98°07'49.24"

Water for the drill hole was sourced from Lobster Lake approximately 560 m to the southeast. No mineralization was intersected in the drill hole, return water and cuttings were pumped to the sump 30 m to the northwest. Casing pulled, top of hole cemented.

# 4.3 <u>LOB-003</u>

Location: Latitude - 64°19'52.11" Longitude - 98°11'29.66"

Water for the drill hole was sourced from Lobster Lake approximately 330 m to the southeast. No mineralization was intersected in the drill hole, return water and cuttings were pumped to the sump 70 m to the northwest. Casing pulled, top of hole cemented.



Figure 27: LOB-001 before drilling

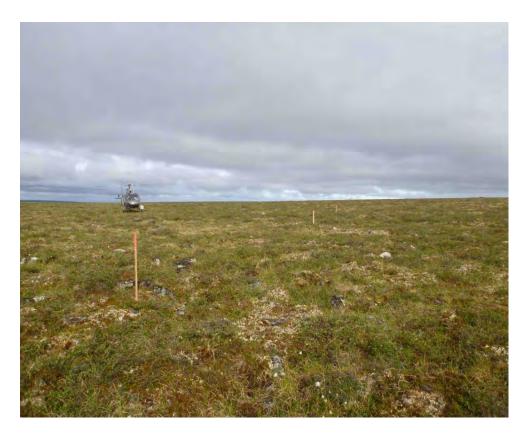


Figure 28: LOB-002 before drilling



Figure 29: LOB-003 before drilling



Figure 30: <u>LOB-001 following drilling</u>



Figure 31: <u>LOB-002 following drilling</u>



Figure 32: LOB-003 following drilling

#### 5.0 JUDGE SISSONS GRID

One drill hole testing a regional gravity anomaly on the Judge Sissons grid was drilled 2.5 km west of the Gerhard Extension grid. A natural low-lying depression proximal to the drill hole was utilized as a sump for disposal of return water.

## 5.1 <u>JSF-001</u>

Location: Latitude - 64°20'07.43" Longitude - 98°04'12.11"

Drilling of JSF-001 commenced July 29<sup>th</sup> and was completed August 1<sup>st</sup>. Water for the drill hole was sourced from Gerhard Lake 340 m to the east. No mineralization was intersected in the drill hole, return water and cuttings were pumped to the sump 80 m to the west. Casing pulled, top of hole cemented.

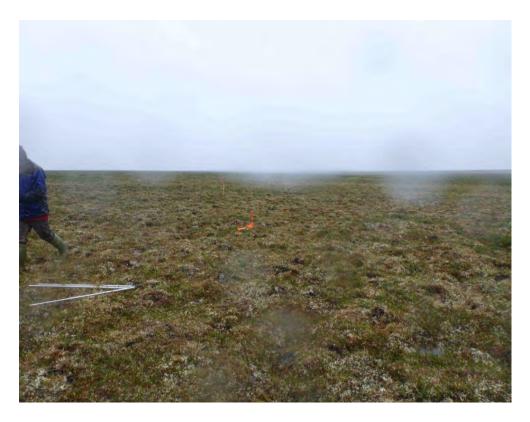


Figure 33: JSF-001 before drilling



Figure 34: <u>JSF-001 following drilling</u>

#### 6.0 HOUND GRID

One drill hole tested a regional gravity anomaly on the Hound grid within the Turqavik Project along the Judge Sissons fault approximately 500 m southeast of the Qavvik zone. A natural low-lying depression proximal to the drill hole was utilized as a sump for disposal of return water.

#### 6.1 <u>HND-002</u>

Location: Latitude - 64°19'50.64" Longitude - 98°14'30.45"

Drilling of HND-002 commenced August 18<sup>th</sup> and was completed August 21<sup>st</sup>. Water for the drill hole was sourced from a lake 200 m to the northeast. No mineralization was intersected in the drill hole, return water and cuttings were pumped to the sump 40 m to the west. Casing pulled, top of hole cemented.



Figure 35: HND-002 following drilling.

#### 7.0 AYRA GRID

Two drill holes were drilled on the Ayra grid in 2012. Drilling commenced August 22<sup>nd</sup> and was completed September 2<sup>nd</sup>. The focus of these drill holes was to test the Ayra grid gravity anomaly for potential mineralization. The drill holes both utilized a low lying area proximal to AYA-009 as a waste water disposal sump.

### 7.1 **AYA-009**

Location: Latitude - 64°18'38.61" Longitude - 98°25'09.86"

Drilling of AYA-009 commenced August 22<sup>nd</sup> and was completed August 29<sup>th</sup>. Water for the drill hole was sourced from a lake 75 m to the southwest. No mineralization was intersected in the drill hole, return water and cuttings were pumped to the sump 70 m to the northwest. Casing pulled, top of hole cemented.

#### 7.2 **AYA-010**

Location: Latitude - 64°18'38.35" Longitude - 98°25'19.97"

Drilling of AYA-010 commenced August 30<sup>th</sup> and was completed September 2<sup>nd</sup>. Water for the drill hole was sourced from a lake 80 m to the southeast. No mineralization was intersected in the drill hole, return water and cuttings were pumped to the sump 110 m to the northeast. Casing pulled, top of hole cemented.



Figure 36: AYA-009 before drilling

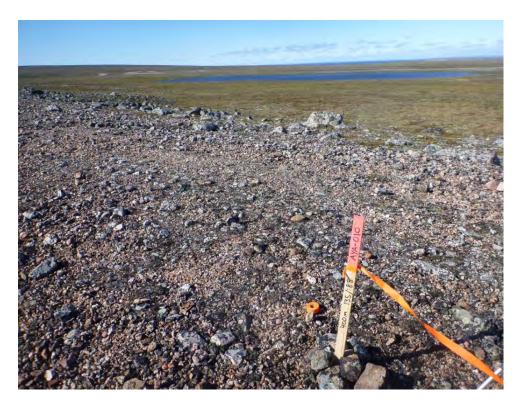


Figure 37: AYA-010 before drilling



Figure 38: AYA-009 following drilling



Figure 39: AYA-010 following drilling

### 8.0 MAMMOTH GRID

Two drill holes were drilled on the Mammoth grid to test a regional gravity anomaly along the Thelon fault zone. Drilling commenced August 11<sup>th</sup> and was completed August 27<sup>th</sup>. Drilling utilized natural depressions proximal to the drill holes as a sump to dispose of drill return water.

#### 8.1 MAM-001A+001B

Location: Latitude - 64°25'15.01" Longitude - 98°01'17.25"

Drilling of MAM-001A+B commenced August 11<sup>th</sup> and was completed August 19<sup>th</sup>. Water for the drill hole was sourced from a small lake 390 m to the northeast. No mineralization was intersected in the drill hole, return water and cuttings were pumped to a sump 70 m to the northwest. MAM-001B was completed from the same setup by shallowing the dip of the drill hole after the first hole was lost due to permafrost. The casing in MAM-001B was unable to be removed due to the casing sticking and had to be cut off at ground level following the cementing of the top of hole. MAM-001B was able to remove the casing, top of hole cemented.

#### 8.2 MAM-002

Location: Latitude - 64°25'27.69" Longitude - 97°59'50.53"

Drilling of MAM-002 commenced August 20<sup>th</sup> and was completed August 27<sup>th</sup>. Water for the drill hole was sourced from a lake 860 m to the southwest. No mineralization was intersected in the drill hole, return water and cuttings were pumped to the sump 90 m to the north. Casing pulled, top of hole cemented.



Figure 40: MAM-001A+B following drilling



Figure 41: MAM-002 following drilling

#### 9.0 SANDBOULD GRID

Two drill holes were drilled on the Sandbould grid to test a regional gravity anomaly along the Thelon fault zone proximal to intersecting structures and historical drilling by Essex Minerals Company in 1985.

#### 9.1 SNB-001

Location: Latitude - 64°24'09.79" Longitude - 98°16'23.80"

Drilling of SNB-001 commenced on August 28<sup>th</sup> and was completed September 3<sup>rd</sup>. Water for the drill hole was sourced from a lake 300 m to the southwest. No mineralization was intersected in the drill hole, return water and cuttings were pumped to the sump 50 m to the north. Casing pulled, top of hole cemented.

#### 9.2 **SNB-002**

Location: Latitude - 64°24'05.85" Longitude - 98°16'30.50"

Drilling of SNB-002 commenced September 4<sup>th</sup> and was completed September 11<sup>th</sup>. Water for the drill hole was sourced from a lake 350 m to the west. No mineralization was intersected in the drill hole, return water and cuttings were pumped to the sump 200 m to the northeast. Casing pulled, top of hole cemented.



Figure 42: SNB-001 before drilling.



Figure 43: SNB-002 before drilling.



Figure 44: SNB-001 following drilling.

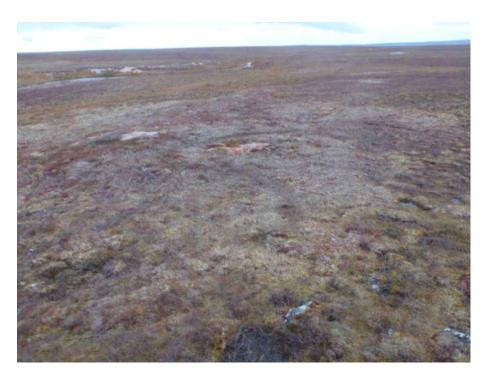


Figure 45: **SNB-002 following drilling.** 

#### 10.0 SANSA GRID

Four drill holes were drilled on the Sansa grid (Qavvik zone formerly Sansa zone) in 2012. Drilling was planned to extend mineralization intersected in 2009-2011 on the grid (Sansa zone). Again, all cuttings were collected from each drill hole and return water was pumped to a sump to the southwest of the grid in anticipation of mineralization. All of these drill holes utilized the same water source and cutting sump. All cuttings, return water and drill sites were inspected with an AutoMess 6150 AD 6 Dose Rate Meter to ensure cuttings and site are below 0.05% uranium concentration. No bags of cuttings exceeded 0.05% and were spread out in the established sump.

#### 10.1 SAN-023

Location: Latitude - 64°20'40.30" Longitude - 98°18'27.33"

Drilling of SAN-023 on the Qavvik zone commenced August 19<sup>th</sup> and was completed August 23<sup>rd</sup>. Water for the drill hole was sourced from a small lake 350 m to the north. No mineralization was intersected in the drill hole, return water and cuttings were pumped to the sump 320 m to the southwest. Casing pulled, top of hole cemented.

#### 10.2 **SAN-024**

Location: Latitude - 64°20'41.15" Longitude - 98°18'22.83"

Drilling of SAN-024 on the Qavvik zone began August 24<sup>th</sup> and was completed August 30<sup>th</sup>. Water for the drill hole was sourced from a small lake 350 m to northwest. No mineralization was intersected in the drill hole, return water and cuttings were pumped to the sump 375 m to the southwest. Casing pulled, top of hole cemented.

#### 10.3 <u>SAN-025</u>

Location: Latitude - 64°20'49.60" Longitude - 98°18'19.93"

Drilling of SAN-025 on the Qavvik zone commenced August 31<sup>st</sup> and was completed September 5<sup>th</sup>. Water for the drill hole was sourced from a small lake 170 m to the northwest. No mineralization was intersected in the drill hole, return water and cuttings were pumped to the sump 600 m to the southwest. Casing pulled, top of hole cemented.

#### 10.4 **SAN-026**

Location: Latitude - 64°20'41.14" Longitude - 98°18'17.50"

Drilling of SAN-026 on the Qavvik zone commenced September  $6^{th}$  and was completed September  $12^{th}$ . Water for the drill hole was sourced from a small lake 380 m to the northwest. No mineralization was intersected in the drill hole, return water and cuttings were pumped to the sump 400 m to the southwest. Casing pulled, top of hole cemented.

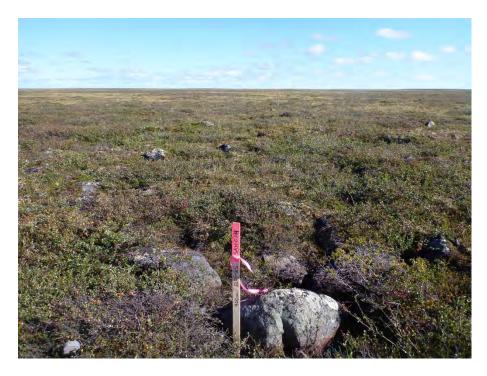


Figure 46: SAN-024 before drilling.



Figure 47: SAN-025 before drilling.



Figure 48: SAN-026 before drilling.



Figure 49: SAN-023 following drilling.



Figure 50: SAN-024 following drilling.

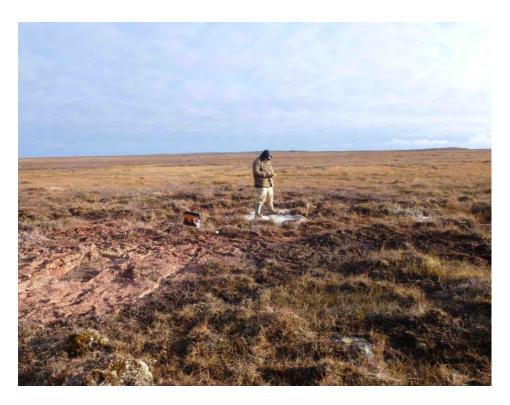


Figure 51: SAN-025 following drilling.



Figure 52: SAN-026 following drilling.

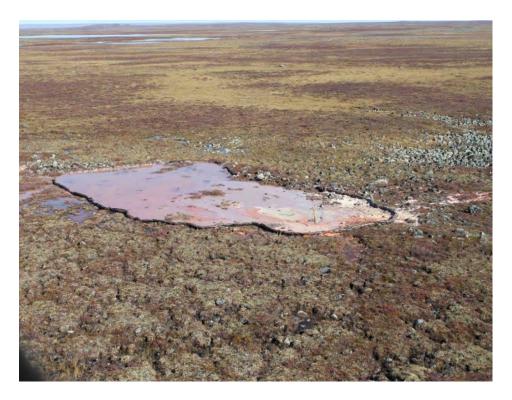


Figure 53: Sansa grid cuttings sump.