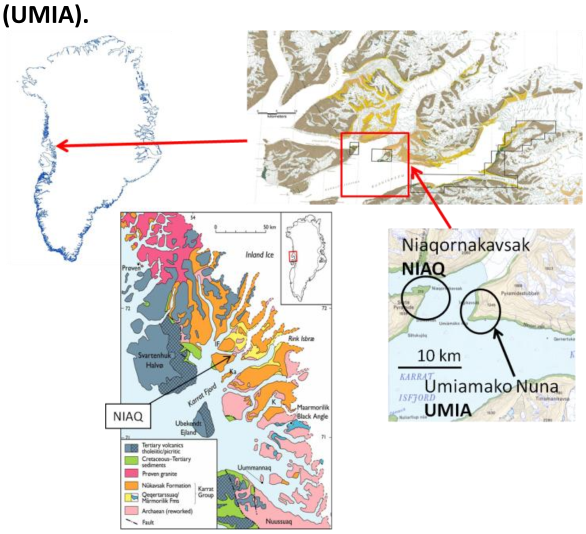
Karrat Rare Earth Project, West Greenland

The Karrat Rare earth Project is located in West Greenland at 71º 40’ N, 52º 46’ W (Figure 1).

The project is located in a 122 square kilometer exclusive exploration licence (2010/05) awarded to Avannaa in 2010. The licence is valid for 5 years and is automatically renewable for an additional 5 year term on 31st December 2014. The licence can, at any time, be converted to an exploitation licence conditional upon the Greenlandic authorities approving the necessarry feasibility, environmental, and social impact studies.

Figure 1: Location of the two REE mineralised localities that comprise the Karrat Rare Earth Project. Ore zones are located on peninsulars: Niaqornaqavsak (NIAQ), and Umiamako Nuna (UMIA).



There are two distinct regions with well documented REE mineralization called respectively NIAQ and UMIA. The NIAQ area has received the most attention to date and is the focus of this document (see Table 1 for a work summary to date).

A well defined ore body has been delineated by a drilling program at NIAQ, but estimates of tonnage and grade are still conceptual in nature and do not constitute compliant resource estimates. At UMIA mapping, channel sampling and two reconnaisance drill-holes have identified potential for a widespread near surface mineralization, but more work is needed to produce a conceptual grade and tonnage estimate.

NIAQ

The REE horizon is an east-west striking planar body, conformable to the regional foliation and dipping south at an angle of 32 degrees. The strike length is 1.5 km, and it is open in two dimensions with outcrop limited by the coastline. Maximum elevation of the ore body is 56 m above sea level and the deepest drill penetration of the ore body is to 168 m below sea level. The shape of the body is approximately tabular and core data suggests it pinches and swells with a true thickness between 10.3 m and 32.5 m. TREO+Y* typically varies between 0.8 wt% and 1.5 wt% with some layers giving up to 2.45 wt% and the average bulk sample being 1.36 wt%. The proportion of HREO+Y** content of the TREO+Y inventory varies from 5.3% to 30.2% with the average bulk sample being 13.1%.

*TREO+Y = Total rare earth oxides + yttrium oxide
**HREO+Y = Total heavy rare earth oxides (europium to lutetium) + yttrium oxide

UMIA

The UMIA body lies 7 km to the southeast of, and along strike from, the NIAQ site. Two holes (in total 420 m), 3 mini-bulk samples and 347 channel samples were collected here. UMIA contains up to 1.98 wt% TREO+Y and the HREO+Y component is up to 28% of the TREO+Y inventory. It is not possible to estimate true thickness at present due to uncertainties in the shape of the layer. UMIA is considered to provide possible upside to a primary open pit mine development at NIAQ.

Table 1: Work summary

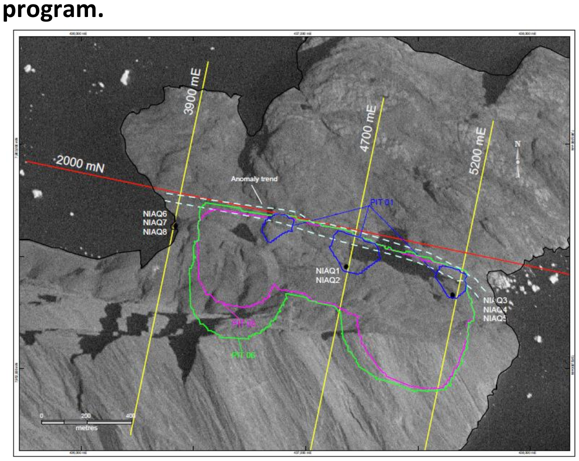
Year	Activity
NIAQ	
2007	Discovery.
2008	Geological mapping, chip sampling.
2009	Channel profiling and mini-bulk sampling established potential for deposit with minimum strike 1.5km, width up to 30 m and open downdip.
2009	Preliminary mineralogical and metallurgical evaluation including QEMSCAN on two samples.
2010	1320 meters diamond drilling.
2010	Mini bulk sampling of 1 tonne in 10

	subsamples from fresh surface outcrop through representative ore horizon.
2011	Metallurgical analysis at PMET and SGS.
2011-planned	Preliminary open pit model with improved topographical control, final report on initial metallurgical scoping study and internal economic assessment.
UMIA	
2009	Discovery – established UMIA as an extension of the NIAQ system.
2010	Geological mapping, 347 channel samples (about 200 meters), 2 mini-bulk samples and 420 meters drilling.

2010 Drill Results at NIAQ

1320 meters of NQ2 dimension drilling was conducted over 8 holes located in 3 fences shown in Figure 2. There is 1275 continuous strike length between the outer drill fences.

Figure 2: Drill collar locations at NIAQ. The coloured boundary lines outline three pits that constitute initial results of an ongoing LG pit modelling program.



The drilling was successful in delineating a mineralized interval along a strike in excess of 1250m extending beyond 200m down dip. The continuation of the grade and thickness of the mineralized horizon down dip gave no indication of a discontinuation. The mineralization can therefore justifiably be described as being open down dip. The along-strike continuation of the deposit remains open to both the east and the west, but only as an underground resource, because the outcrops are underwater. A simple geological structure is indicated by the drill results as indicated by the three cross sections in Figure 3.

Table 2: Significant Intersections at the 2010 NIAQ drill program, based on 109º/32ºS orientation of the ore horizon.

Hole	Dip / Azimuth	From (m)	To (m)	Interval (m) down hole	TREO + Y_2O_3 %	THREO+ Y_2O_3 %	true thickness (m)**
NIAQ 001*	015º/-90º	90.26	113.34	23.08	0.88	0.11	12.23
NIAQ 002	015º/-49º	64	95	31	1.04	0.14	30.34
NIAQ 003	030º/-49º	55	83.5	28.5	1.03	0.15	26.73
NIAQ 004*	030º/-90º	63	99	36	0.82	0.10	30.52
NIAQ 005	210º/-60º	142	211.5	69.5	0.92	0.11	32.50
NIAQ 006	015º/-45º	70	83.97	13.97	1.11	0.14	13.49
NIAQ 007*	015º/-90º	83	102.5	19.5	1.12	0.15	10.33
NIAQ 008	195º/-60º	137	198	61	1.03	0.13	28.56

* Intersection corrected for specific gravity

Significant intersections are given in Table 2. In addition to these primary intersections the following grades are noted over shorter intervals, expressed as wt % TREO+Y:

1.54% over 3 meters,
1.91% over 3 meters,
1.49% over 12 meters,
1.50% over 5.5 meters,
1.60% over 2.5 meters,
1.84% over 3 meters,
1.99% over 3.5 meters.

An estimate of the tonnage and grade was made based on a simple block model consisting of nine blocks interpreted from geological cross sections, specific gravity and assay data. Two estimates have been calculated, in neither of the two tonnages given is any material included in strike extensions beyond the bounding drill fences. The estimate called conservative only extends to the trace of the deepest hole and adds nothing down dip of where we have drilling information. Then there is the optimistic tonnage, in the calculation here the midway distance between the deepest hole and the up dip hole is added to the volume down dip. It is for the optimistic estimate also assumed that a down dip hole drilled from the midway fence would yield similar results to the down dip holes drilled at XS3910E and XS5180. In both tonnage calculations a specific gravity of 3.2 grams/cm^3 has been used. The results are as follows:

Optimistic estimate; 26.271mt @ 0.996% TREO+Y_2O_3 and 0.13% THREO+ Y_2O_3

Conservative estimate; 19.456mt @ 1.02% TREO+Y_2O_3 and 0.13% THREO+ Y_2O_3

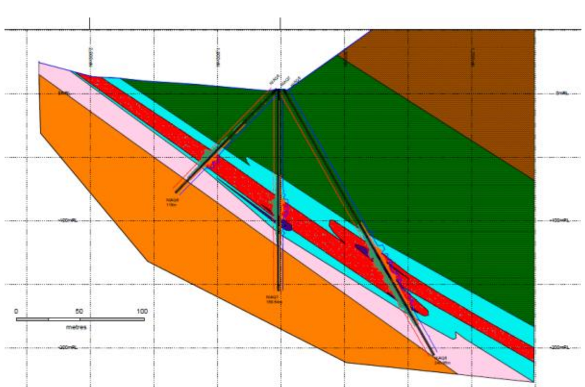
Note, however, that there is no evidence in the drill data for any decrease in thickness of the mineralized body down-dip. Nor is there any evidence for structural cut-offs.

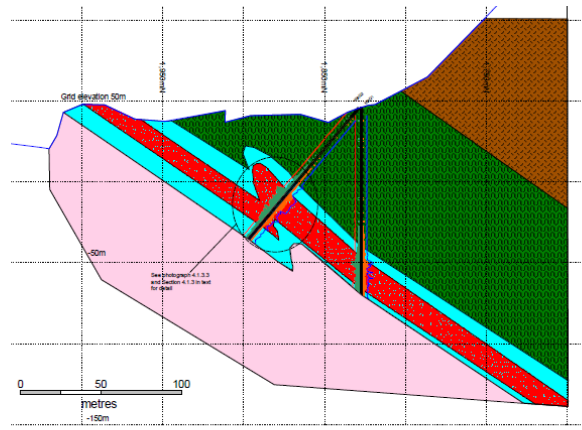
The distribution of individual rare earth elements is summarized in Table 3. This summary is based on the average REE content of 8 mini-bulk samples that span the mineralized horizon. The total HREO+Y is 13% of the TREO+Y inventory. Note in particular the elements highlighted in grey, which are affected by critical supply issues in the medium term.

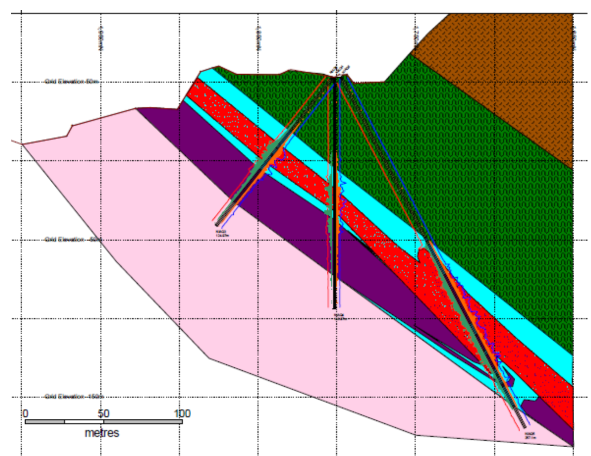
Table 3: Analyses of average bulk sample

Element	ppm	Re_2O_3 wt %	Re_2O_3 as % of total Re2O3+Y	Kg Re_2O_3 / tone ore
La	2245	0.263%	19.3%	2.63
Ce	5037	0.590%	43.3%	5.90
Pr	470	0.055%	4.0%	0.55
Nd	2004	0.234%	17.2%	2.34
Sm	358	0.042%	3.1%	0.42
Eu	106	0.012%	0.9%	0.12
Gd	270	0.031%	2.3%	0.31
Tb	39	0.004%	0.3%	0.04
Dy	181	0.021%	1.5%	0.21
Ho	28	0.003%	0.2%	0.03
Er	69	0.008%	0.6%	0.08
Tm	8	0.001%	0.1%	0.01
Yb	43	0.005%	0.4%	0.05
Lu	5.5	0.001%	0.0%	0.01
Y	721	0.092%	6.7%	0.92
TOTAL	**11584**	**1.361%**	**100%**	**13.61**

Figure 3: Cross sections through the three drill fences at NIAQ indicate a simple layered feature dipping approximately 32 degrees to the south.







Metallurgical studies

Avannaa has initiated a preliminary metallurgical scoping study that includes the following components:

1. Mineralogical examination, including QEMSCAN to determine REE mineral inventory in 16 samples from the bulk sample profile.
2. Flotation and magnetic studies to constrain mineral beneficiation.
3. Hydrometallurgical studies involving a number of reagents in a matrix of heap leaching experiments.

Initial results obtained in 2010 indicate that the main minerals hosting REE are chevnikite and diversilite (Fe-Ti-Ba-REE silicates), bastnaesite, monazite, and allanite. Ytrrium is hosted in fergusonite and Y-flourides.

We expect to be able to make a preliminary metallurgical evaluation by May 2011, and this will be combined with additional pit modeling and other economic considerations to provide an assessment of overall project viability.

Mine plan

NIAQ is amenable to open pit mining and we will complete an initial assessment by May 2011. The physical limits to the pit size are defined by the coastline and by a line of cliffs that form the southern boundary of the peninsular. At UMIA much of the mineralized rock is accessible near the surface and requires little in the way of mining construction.

Radioactive elements

The average and median thorium content of REE bearing rocks is in the range 400 – 500 ppm. This is based on examining thorium content over all samples collected to date with TREO+Y > 0.6 %. Initial mineralogical studies have indicated that thorium is dominantly hosted in huttonite (thorium silicate) indicating there is good potential to separate thorium from the REE during processing. The deposit is uranium free (< 5 ppm).

Other elements

Niobium levels are between 300 and 500 ppm in the ore horizon. There is no appreciable content of beryllium, zirconium, scandium, tantalum or other non-REE rare metals.

Host rock and genesis

The host rock is Paleoproterozoic metasediments and metavolcanics of the Karrat Group. The REE mineralization is a lithologically distinct horizon of banded carbonates hosted in an amphibolite unit.

The REE are interpreted as being introduced by metasomatic fluids, probably from a ferrocarbonatite source. The mineralized horizon is not considered to be a carbonatite. This opinion is primarily based on the overall whole rock chemistry:

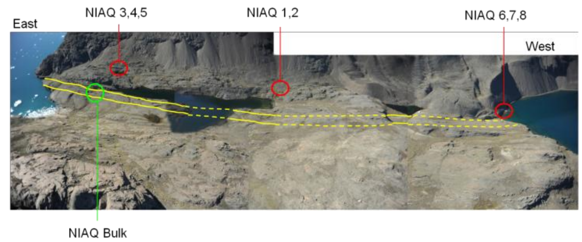
- SiO_2 content of the horizon varies between 15-25%, in a carbonatite expected values are below 5%.
- CaO content varies between 18-20%, in a carbonatite expected values are >30%.

Physiography and infrastructure

Terrain at both NIAQ (Figure 4) and UMIA is gentle and directly adjacent to tidewater with ice free access for at least 6 months per year.

The deposit is located only 75 km from the Black Angel lead zinc mine, which was Greenland's most successful mine, operating in the 1970's and 80's and soon to be re-opened. The airport of Qaarsut and town of Uummannaq are located 100 km to the south.

Figure 4. NIAQ deposit viewed from North



For further Information

Call Hugh Mackay on +44 7771 660 539
email info@avannaa.com