

On Monday, July 22, 2019, 07:06:35 AM GMT+8, 坪内俊憲 <t_tsubouchi@seisa.ac.jp> wrote:

Dear Ms. Sukhgerel,

I just retrieved files you sent me last month.
My questions and comments are;

1) They said carried out the inspection, what kind of inspection they did. And method and Geiger counter they used? duration of measurement (1, 5, 10 minutes? or more?) and What unit they used? Any comparison data from areas where no Uranium or any other mining activities taken place?

I believe sample number 61 is animal dung, 62 is ash sample. The Potassium levels are indicating the concentration but only two time concentration. Most probably the dungs are very dry. Ashes from plants are usually concentrated 10 time or more than the plants.

2) Natural occurrence of Cesium 137 is only from Uranium 238, but it is very very minimum occurrence. Most of Cesium 137 is produced by nuclear power plants or nuclear bomb. 11 bq/kg are not small amount from natural dung and ashes. It is supposed to be less than 0.5 bq/kg that is not detectable level with the detector used.

3) Thorium 232 decays to become Thorium 228, then decays to Lead 223 then become lead 208 with emitting gamma ray. All of Thorium emits gamma ray. Natural occurrence of Thorium 232 in the basalt rock is about 6.5 bq/kg.

Minimum detectable activity on Uranium is set for 100 bq/kg that is too high. It is supposed to be 1 bq/kg or less.

Though Uranium are not detected due to the minimum detectable activity is too high, the two radio active nuclei are suggesting of existence of Uranium. Furthermore, detected two radio active nuclei give significant impacts to Animals and human when they are inhaled or taken into body. Impacts of radiation have inverse correlation to distance squared and proportional relation to time exposed. That means the impacts of the radio active nuclei taken to inside of body are infinitive since distance becomes Zero. Both samples are the sample materials derived from inside of animal body. Therefore, their conclusion on the samples are not acceptable from scientific point of view.

I will send this document to experts working on the matter and feedback to you soon.

Once again, I am sorry not able to push my date earlier and late response.
Best regards,

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Graduate School of Education
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МХЕГ-ын Хүнсний Аюулгүй Байдлын
Үндэсний Лавлагаа Лабораторийн ерөнхий
захирлын 2018 оны 05 дугаар сарын 09 өдрийн
А/20 дугаар тушаалын 5 дугаар хавсралт
Маягт 06-01

МХЕГ-ЫН ХҮНСНИЙ АЮУЛГҮЙ БАЙДЛЫН
ҮНДЭСНИЙ ЛАВЛАГАА ЛАБОРАТОРИ
Улаанбаатар 17042, Хан-Уул дүүрэг, Чингисийн өргөн чөлөө 75
Утас: 70005972 Факс: 70006946

ЦАЦРАГИЙН ХЯНАЛТЫН ИТГЭМЖЛЭГДСЭН
ЛАБОРАТОРИЙН ШИНЖИЛГЭЭНИЙ ДҮН
CERTIFICATE OF ANALYSIS

Бүртгэлийн дугаар /The registration number/: ЦХ 2019/61-62

Шинжилгээ хийлгэх хүсэлт гаргасан газар, хүний нэр: У/Б Н.Од-Эрдэнэ

The name of customer's request for analysis

Шинжилгээний аргын стандарт /Method of analysis/: MNS 5626:2006, MNS 5072:2018

Шинжилгээ хийсэн шинжээчийн код /analyst code/: RD, RG

Дээжийн тодорхойлолт /The sample description/		
Дээжийн төрөл Type of sample	Дээжийн дугаар Number of sample	Протоколын дугаар Protocol number
Гадаад орчин /Environmental/	Г/4	000003537
Хүлээн авсан огноо Date of receipt	Шинжилгээ дууссан огноо Date of test completion	Хэвлэсэн огноо Date of issue of the report
2019.01.09	2019.04.01	2019.04.01

Шинжилгээний хэмжилт, туршилтын дүн, үзүүлэлт тус бүрээр

№	Дээжийн нэр Name of sample	Изотопуудын хувийн идэвх, Бк/кг Activity concentrations of Isotopes, Bq/kg			
		A _{U-238}	A _{Th-232}	A _{K-40}	A _{Cs-137}
1	ЦХ/61 Норсүрэн өвөлжөө хөрзөн	<MDA	15 ± 2	593 ± 43	5.7 ± 1.0
2	ЦХ/62 Норсүрэн зуслан үнс	<MDA	24 ± 2	2396 ± 149	11 ± 1.2
Илрүүлэх хамгийн бага хязгаар, (<MDA) Minimum Detectable Activity		100	3	14	1
Санал тайлбар / Opinions and interpretation/:					

Дүнгийн хуудсыг 2 хувь үйлдэв.

ХЯНАСАН: АХЛАХ ШИНЖЭЭЧ

Checked by

гарын үсэг /Signature/

/Б.МӨНХЦЭЦЭГ/

БАТАЛГААЖУУЛСАН: ЛАБОРАТОРИЙН МЕНЕЖЕР

Approved by

гарын үсэг /Signature/

/Х.ИДЭРМӨНХ/

Энэ шинжилгээний дүн нь зөвхөн шинжилгээ хийсэн сорьцонд хамаарна.
Шинжилгээний дүнг лабораторийн зөвшөөрөлгүй хуулбарлахыг хориглоно.

Хуудасны тоо /Page number/: 1-1