

## **Commitment to Quality Assurance and Quality Control**

Ensuring proper quality measurements in all aspects of the exploration phase is a priority for Strateco Resources Inc. (the "Company"). The Company continuously reviews data quality and routinely reviews and enhances its methods of monitoring quality. The Company is committed to proper data gathering and management. External reviews of quality assurance and quality control methods by outside experts such as Scott Wilson Roscoe Postle Associates Inc. have enabled us to continuously enhance our procedures. Quality Assurance and Quality Control (QA/QC) are notably critical in two aspects of the mineral resource assessment phase: geochemical sampling (assays) and radiometric readings (probing). This document is intended to comprehensively review methods applied to both aspects.

### **Geochemical sampling**

The sampling program at Matoush, including all aspects of Quality Assurance and Quality Control, is supervised by the Company's Chief Geologist, Jonathan Lafontaine, P.Geo., who is a Qualified Person as defined under National Instrument 43-101.

#### **Sample preparation**

Drill core is accurately measured, descriptively logged, and samples picked based on lithology, alteration, and radiometric data carefully measured with a hand-held spectrometer (GR-135 from SAIC). The Company samples all fault zone intersections. Individual sample lengths vary between 0.5 m to 1.0 m but are subject to variations if the geologist deems this absolutely necessary to ensure proper and comprehensive sampling. Barren samples typically 1.0 m in length are taken to close off the intersections. Core length intersections do not represent true width and are corrected when mineral resources are assessed. It is not the Company's policy to estimate true widths until three-dimensional continuity of the intercepts is definitively established.

#### **Sampling and Shipment**

Three-part sample tags are used to track the samples. The first tag is stapled in the core box with a numerically corresponding aluminum dymo tag. The second tag is inserted

into a clear plastic bag identified with the identical number inscribed on the bag. The third is archived in the field office located on the Matoush Property. Core is split using a hand or hydraulic splitter according to sample intervals marked on the core with one half preserved in the box and the other inserted into the sealed plastic bag. The sample bags are then placed in large plastic or metal pails of 5 gallons and sealed for shipping. Pails of samples are shipped by helicopter or float plane to the Temiscamie float plane base, trucked to Chibougamau where they are sent by courier to the Saskatchewan Research Council (SRC) in Saskatoon, SK.

### **Saskatchewan Research Council (SRC) Analytical Procedure**

The Geoanalytical Laboratories at SRC are a high quality analytical service facility with a stringent Quality Assurance (QA) program dedicated to actively seeking to evaluate and continually improve the internal quality management system. The laboratory is accredited by the Standards Council of Canada as an ISO/IEC 17025 laboratory for Mineral Analysis Testing and is licensed by the Canadian Nuclear Safety Commission (CNSC) for possession, transfer, import, export, use and storage of designated nuclear substances by CNSC Licence Number 01784-1-09.3.

On arrival at SRC, samples are sorted into lots according to radioactivity level and samples are prepared in order from least to most radioactive. SRC inserts, at the minimum, a blank sample, a duplicate from the batch and a Quality Control (QC) standard of its own with each sample batch.

Sample processing includes the following steps:

1. Samples are dried and jaw crushed to 60% passing -2 mm.
2. A 100 g to 200 g subsample is split using a riffler.
3. A ring and puck grinding mill pulverizes the subsample to 90% passing 106 microns. The mills are cleaned between samples using steel wool and compressed air.
4. Uranium content is measured by inductively coupled plasma ICP 4-3 (near total tri-acid digestion using fluorine, nitric and perchloric acids followed by a dilute nitric acid bath), ICP 4-3R (partial aqua-regia digestion); fluorimetry on partial digestion is also used if total digestion of  $U_3O_8$  is less than 100 PPM.

5. Samples done by ICP 4-3 also have the full package of trace elements run. Samples with greater than 1,000 ppm  $U_3O_8$  are also subjected to an aqua regia digestion before determination of  $U_3O_8$  wt% also by ICP and samples are also fire assayed for precious metals (Au, Pt, Pd).

## **QA/QC methods**

### ***SRC QA Protocols***

Upon receipt, data batches are checked to ascertain that SRC data follows its own analytical protocols and verifies repeats and standards the SRC inserts into the sample batch.

### ***Quarter-split drill core duplicates***

Drill core duplicates assess: the variability introduced by selecting one half of the drill core versus the other, the sample numbering mistakes, and the nugget effect. Samples to be duplicated are randomly selected by the sampling technician with rough guidelines given by the geologist. A quarter-split duplicate is separately inserted every 14 samples by the Company's sample technician. Once the sample to be duplicated is selected, the sample bag is re-opened; split core is pulled out and quartered into separate bags. Duplicates are inserted randomly into the sample number sequence. A thorough program is underway to clearly determine natural heterogeneity but pairs are considered acceptably identical if they are within 10%. The Company is currently standardizing sample batches to ensure that approximately 5% of all samples in a batch correspond to quarter split duplicates.

### **Blanks**

The regular submission of blank material is used to assess contamination during sample preparation and to identify sample numbering mistakes. Blanks are selected by the sampling technician under the guidance of the geologist. Blanks correspond to clean, non-radioactive, 1 m-long, fine-grained silicified sandstone samples. A blank is separately inserted every 14 samples by the Company's sample technician. SRC's system of sorting samples in ascending order of radioactivity helps eliminate significant contamination from preceding samples but also nullifies the use of blanks as contaminant assessment mechanisms. Nonetheless, submission of blanks inserted into

the sampling sequence is used to assess sample numbering mistakes. The Company is currently reviewing the threshold for allowable trace uranium to be detected but blanks are considered acceptable if they contain less than 50 PPM. The Company is currently standardizing sample batches to ensure that approximately 3% of all samples in a batch are blanks.

### **Certified Reference Materials (CRM)**

Results from the regular submission of certified reference materials (CRM) are used to identify problems with specific sample batches and long-term biases associated with the regular assay lab (SRC). It is important that the uranium grade of the CRM is representative of the grade range of the resource assays. CRM are sampled with a small baggie and placed in a standard sample bag which is identified and inserted into the sample number sequence. The Company considers that failure occurs when assays from two consecutive CRM are greater than +/- two standard deviations or if the assays from a single CRM are greater than +/- three standard deviations from the expected value. The Company is currently standardizing sample batches to ensure approximately 2% of all samples in a batch are CRM and at least one CRM is inserted into the sample batch.

### **Future QA/QC methods**

The Company is committed to continuously improving QA/QC procedures. As such, the Company is currently reviewing potential analytical procedures to implement assessment of laboratory bias by sending out pulps to a second independent laboratory and re-analysis of coarse pulp duplicates. Although intermittent studies of this type have been completed to satisfaction, a routine has yet to be established.

### **Radiometric Assays (probing)**

All completed drill holes are probed from collar to the end of hole by a geotechnician of the Company after allowing adequate time for washing to remove smear and ensuring proper radon diffusion to ambient background levels. The Company currently uses a Mount Sopris 2GHF triple gamma downhole probing tool which uses a combination of two Geiger-Müller detectors and a sodium iodide detector incorporated into one tool allowing accurate measurements of a variety of uranium mineralization types (from background levels to high grades). Data is collected every 5 cm going up hole.

These data are compared with geochemical grades once sample results are returned from the SRC. Natural variations on the order of 5% - 10% differences in grade x thickness (GT) do occur, though variations are typically less than 5%.

Cable stretch and slip are of particular concern and can be as high as approximately 1% (meaning one centimetre of slip and stretch going up hole per metre of coiled cable). Although this value is negligible for drill holes of less than 100 m, it can be significant for the Matoush Project where drill holes usually exceed 300 m and can go as deep as 800 m or more. Stretch and slip of the cable during uphole readings are assumed to be due to cable twisting-untwisting or slip of the pulley that measures cable length. Usually, downhole gamma readings appear higher up in the log than radioactive peaks as measured on drill core. To compensate for this effect, depths are multiplied by 1.01.

### **Grade X Thickness (GT) estimates**

All calculations for the grade x thickness (GT) estimates are based on instrument readings inside a water-filled drill rod string. Raw counts per second (CPS) data are compensated for the dampening effects of steel rods and water. For the 2GHF triple gamma tool, once a simple correction is applied to compensate for the spatial distribution of the detectors in the instrument, the values are smoothed by a moving average covering 70 cm centred on the depth of the instrument measurement to remove spurious short narrow peaks which are not considered representative. The results are triaged based on the ideal range of detection for both types of detectors. The sodium iodide detector readings are retained if they are below 6,000 CPS (i.e., low grades), and the sum of the Geiger-Müller detectors above this cut-off.

An in-house Excel macro uses a high order polynomial (3<sup>rd</sup> order for sodium iodide detectors, 2<sup>nd</sup> order for Geiger-Müller detectors) to assign grade to CPS value on a sample per sample basis. This polynomial is determined through controlled experiments using an on-site calibration drill hole from which known assay results are taken. Thus, a known grade over a known thickness is assigned a CPS value for both detectors for a variety of grades typically encountered on the property.

The calibrated polynomial curve is acceptable up to the maximum grade encountered on the calibration curve. When this maximum CPS is exceeded in a drill hole, the calibrated polynomial is no longer applicable over this value and a procedure is in place to re-compute a more accurate polynomial once accepted assay data have been recovered. Finally, the macro will attempt to estimate  $U_3O_8$  content ( $eU_3O_8$ ) over a minimal length the Company has determined to be geophysically reliable as per suggested by Mount Sopris information (70 cm). GT estimates are then deconvoluted to length and grade.

### **QA/QC methods**

Once data are imported into the database, the downhole probing data are visually compared with logged radiometric readings on drill core. Discrepancies in results are immediately investigated and corrected. Although the data sources and reporting methods are significantly different, it is visually checked to ascertain the concordance of peak spacing and general width of mineralized zones. Radiometric data on drill core is gathered by removing each piece of drill core from the ambient background, noting the most pertinent reproducible result, and carefully returning it to its correct place in the core box.

Prior to and after each probed drill hole, the geophysical instrument is tested with a calibration sleeve composed of several  $Am^{241}$  point sources distributed evenly within a steel sleeve slid onto the NaI detector. The Company considers the calibration test acceptable if 95% of measurements fall within 2 standard deviations of the average value.

Furthermore, a water-filled and cased calibration drill hole is probed once per 3-weeks to ensure minimal but measured instrument drift (if any).

Finally, a highly-regarded outside independent specialist in the field of nuclear log analysis, Dr. Robert D. Wilson, reviewed and audited the probing procedures and methods used by the Company. Dr. Wilson concluded that the procedural methods are valid, and protocols are adequate for the remote environment in which the instruments are used.

## **eU<sub>3</sub>O<sub>8</sub>**

The "e" in eU<sub>3</sub>O<sub>8</sub> represents the estimated or equivalent value of U<sub>3</sub>O<sub>8</sub> as determined by downhole geophysical probing. The "e" indicates that the value is not obtained by drill core assays, but rather by converting gamma radiation measured *in situ* in the drill hole into U<sub>3</sub>O<sub>8</sub> values by assuming that all gamma radiation can be directly attributed to the quantity of uranium present in the rock. The Company can clearly show that all our mineralized intersections typically have a negligible quantity of radioactivity related to thorium or potassium that would skew this analysis. Furthermore, after isotopic analysis, the Company can safely say that, like most other deposits older than 0.35 million years, the uranium is in equilibrium (i.e. daughter elements are produced and disintegrated at a steady state, correlated to the quantity of uranium).

This method of distinguishing analytical assay values from geophysical measurements is common in the industry.

Although the Company may indicate that reported U<sub>3</sub>O<sub>8</sub> values are estimated from gamma probe readings, it is best to use eU<sub>3</sub>O<sub>8</sub> for clarity, if applicable, as per the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) guidelines cited here: Equivalent Assay: *Determination of uranium content by radiometric methods. The validity of Equivalent Assays must be demonstrated with chemical assay determination. Where employed, equivalent uranium determination should be reported and appropriately illustrated in the database (e.g. eU<sub>3</sub>O<sub>8</sub>). Excerpt: <http://www.cim.org/committees/estimation2003.pdf> at page 50 of 55.*

## **U<sub>3</sub>O<sub>8</sub> and eU<sub>3</sub>O<sub>8</sub> comparison**

Assays are considered by the Company to be the "reliable" value. However, downhole readings are used *in lieu* of assay data if these data are not available due to missing core or lengthy turn around time by analytical procedures.

Comparing the downhole gamma log data against the assay results is best made on a GT basis for several reasons. First and most obviously, sampled media is different.

Assays represent a measured quantity of uranium, whereas uranium values obtained from the in situ probing represent the radioactive signature of a football-shaped volume incorporating fluids, rod casing and wall rock. Furthermore, the natural heterogeneity of the mineralization may also lead to variation in the estimated grades. It is also important to note that the probe is not centred in the drill rod string but is gravity-held in the trough (bottom) of the rod string as it is descended and raised and thus does not evenly read the mineralization in the wall rock. Variation of sample length is yet another reason for comparing GT values. Finally, because the end product of the downhole probing estimate is the GT value (which is later deconvoluted to length and grade), it is simply more advisable to compare the “source” of the data, the GT, rather than the actual grade and lengths.