

19 January 2015

# METALLURGICAL TEST WORK RETURNS RAPID LEACH KINETICS AND INCREASED RECOVERIES

### Highlights:

- Results from Maden Tetkik ve Arama (MTA) laboratory in Ankara returned rapid leach kinetics under ISR alkaline agitation leaching in 14 samples.
- □ Uranium recovery of 84.9% in samples above the resource cut-off grade of 200ppm U<sub>3</sub>O<sub>8</sub>.
- Improved metallurgical recoveries to be incorporated into the upcoming PFS. Average recovery in the previous PEA was assumed to be 69%.
- Extraction of other elements into solution is very low due to selective uranium leaching.

Anatolia Energy Limited (the "Company" or "Anatolia") is pleased to announce that it has received very encouraging results from MTA's ISR alkaline leach agitation test work on 14 intervals of core sample material from the Company's Temrezli uranium deposit. The samples were collected from wide spaced drilling in the northeast of the deposit which contains over 65% of the resource (Figure 1). The material was selected from lenses 1 to 5 which are the most laterally continuous.

The Company's Interim CEO & MD, Mr Paul Cronin said:

"These metallurgical results confirm that the Temrezli deposit is amenable to extraction of uranium using a standard alkaline leach environment, as seen in other ISR uranium projects in the United States. I am particularly delighted with uranium recoveries exceeding 80% within a short leach time. The results indicate that plant design at a head grade significantly above the current assumption of 100ppm, can be achieved, with significant cost and recovery benefits. The rapid leach kinetics also indicate that production to plant capacity will be achievable with less wells than we had previously assumed in the PEA, potentially reducing the working capital required to achieve first cash flows."

Half core HQ diameter core material was collected from the drill rig and immediately vacuum sealed to preserve sample integrity. The samples were delivered to the MTA facility and leach studies were conducted for 12 consecutive days using a 2g/L bicarbonate – 0.5g/L peroxide lixiviate to approximate typical USA ISR operations. Approximately 60 PV of lixiviate were introduced to untreated ore samples through bottle roll testing. Using head grades determined from the leach recovery (average of  $501ppm\ U_3O_8$ ) plus residual tails, the uranium recovery averaged 80.2%. The sampling included a selection of high, moderate and low grade uranium, however recoveries from samples above the resource cut off grade ( $200ppm\ U_3O_8$ ) were higher, averaging 84.9%. Table 1 summarizes the MTA metallurgical test results.

Uranium recovery curves indicate rapid leach kinetics with 50% of the uranium recovered after approximately 20 PV exchanges with leaching of uranium still on-going at 60 PV, and peak head grades achieved in less than 5 PV.

The MTA metallurgical sampling results are shown pictorially as cross sections in Figures 2 to 7.

Table 1. Metallurgical Test Results

Hole ID	Interval	Lab Test ID	Ore Grade U <sub>3</sub> O <sub>8</sub> (mg/kg or ppm)	Weighted AVG Head Grade U₃O <sub>8</sub> (mg/L)	U₃O8 % Recovery
TUR69	124.5-128.3 m	986/2	115	14.3	89.8%
TUR69	130.5-139.2 m	987/2	709	81.2	82.5%
TUR69	174.0-181.6 m	988/2	406	47.7	84.8%
TUR76	125.3-128.5 m	989/2	13.7	1.5	83.0%
TUR76	135.4-137.0 m	990/2	232	14.3	44.27%
TUR76	145.6-148.3 m	991/2	495	60.5	88.0%
TUR78	119.4-122.6 m	992/2	64.3	7.3	81.9%
TUR78	127.9-129.5 m	993/2	1123	137	88.1%
TUR 80	129.0-129.8 m	995/2	1169	145	89.4%
TUR 81	111.7-115.2 m	996/2	1128	148	94.6%
TUR83	88.8- 90.4 m	997/2	459	52.5	82.2%
TUR83	112.1-113.3 m	998/2	114	9.4	59.3%
TUR83	133.40-135.5 m	999/2	463	54.7	84.9%
TUR83	168.0-169.5 m	1000/2	590	60.0	70.3%

Average 80.2%

Average Above 200ppm Cut Off Grade 84.9%

#### **Test Conditions and Procedure**

R&D Enterprises from Casper, Wyoming is a highly regarded consultancy providing analytical and chemical solutions to the ISR industry throughout Canada and the US. R&D Enterprises was engaged by the Company to travel to the laboratories of the MTA and present its Standard Operating Procedure – *Uranium Agitation Leach Procedure for Alkaline ISR Operations* – for the MTA to follow, and further modified the SOP to accommodate the equipment and facilities present in Turkey. Adequate facilities, staff and equipment existed to support the testing as per the SOP. Analytical equipment required for testing and chemical analyses were in place and were acceptable whilst preparation methods were ASTM approved. ICPOES uranium analysis was conducted at appropriate emission lines and appeared to have satisfactory QA/QC checks in place. Whilst the SOP were rigorously adopted and implemented by MTA's highly

qualified staff, the laboratory has no formal international accreditation although its services are widely used by Turkish industry and research facilities.

### **Uranium Agitation Leach Procedure for Alkaline ISR Operations**

Leach amenability studies, sometimes referred to as "bottle roll tests", are intended to demonstrate that the host ore uranium mineralisation is capable of being solubilised using conventional in-situ recovery (ISR) chemistry. The lixiviate material is prepared using sodium bicarbonate as the source of the carbonate complexing agent. Hydrogen peroxide is added to the uranium oxidising agent as the tests are conducted at ambient pressure. pH adjustment may be conducted by saturating the ore/solution slurry with gaseous carbon dioxide prior to sealing the leach vessel. The procedures used represent the intended and possible chemical and oxidant concentration for the project however, the tests are not designed to approximate in-situ conditions (permeability, porosity, pressure) and are merely an indication of an ore's reaction rate and the potential uranium recovery.

**ENDS** 

#### For further Company information please contact:

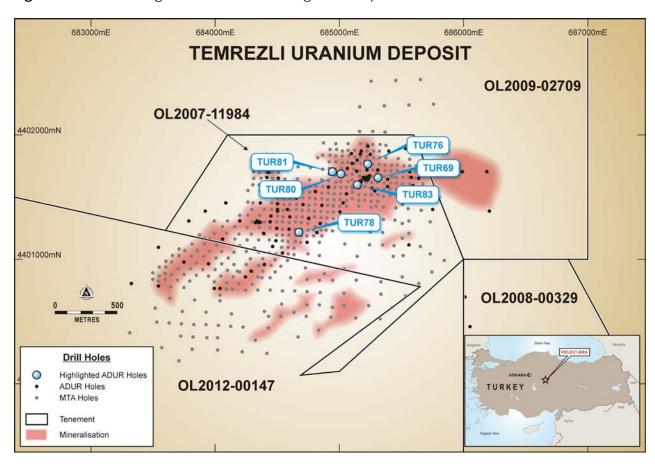
#### Paul Cronin

Interim CEO & Managing Director Anatolia Energy Limited

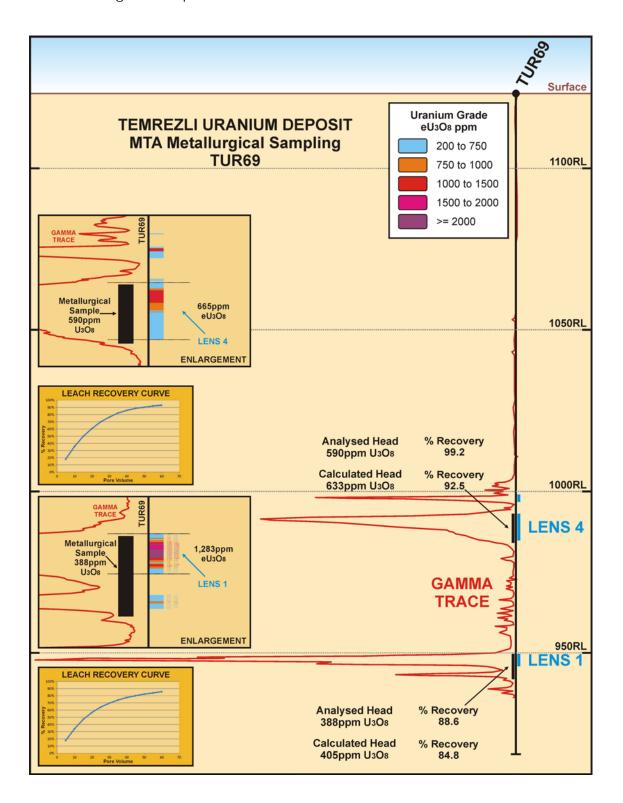
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The information in this release which relates to Metallurgical Results is based on information compiled by Mr Benjamin Schiffer who is employed by WWC Engineering, LLC of Sheridan Wyoming, USA. Mr Schiffer is a Professional Geologist in the State of Wyoming and is a member of a Recognised Overseas Professional Organisation (ROPO) as listed by the ASX. Mr Schiffer has over 30 years experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Schiffer consents to inclusion in this release of the matters based on their information in the form and context in which it appears.

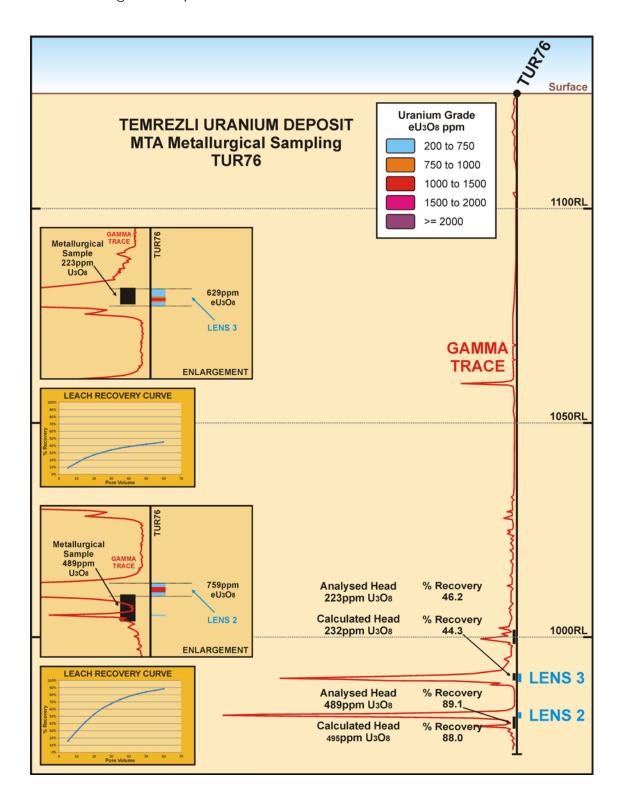
Figure 1: Plan showing Location of Metallurgical Samples



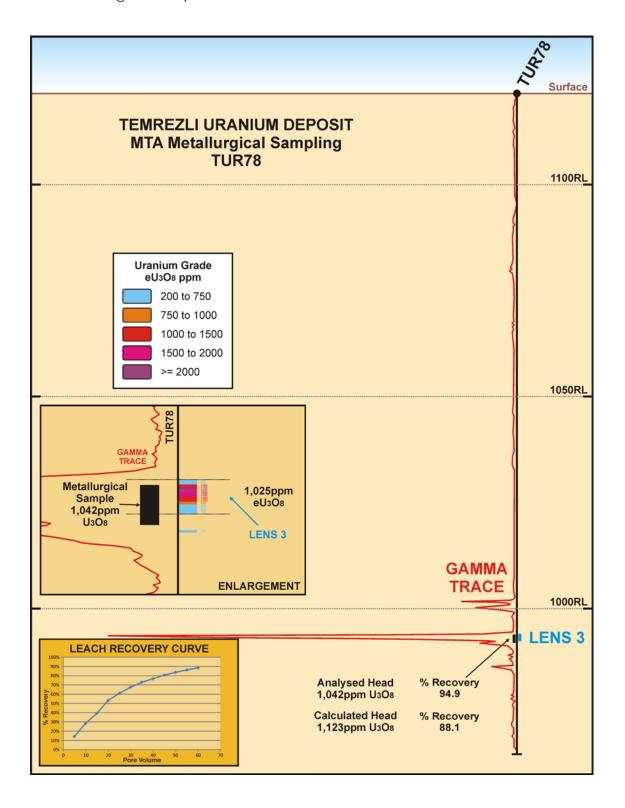
**Figure 2:** TUR69 Cross Section Showing Gamma Trace, Chemical and Equivalent Grades and Metallurgical Sample



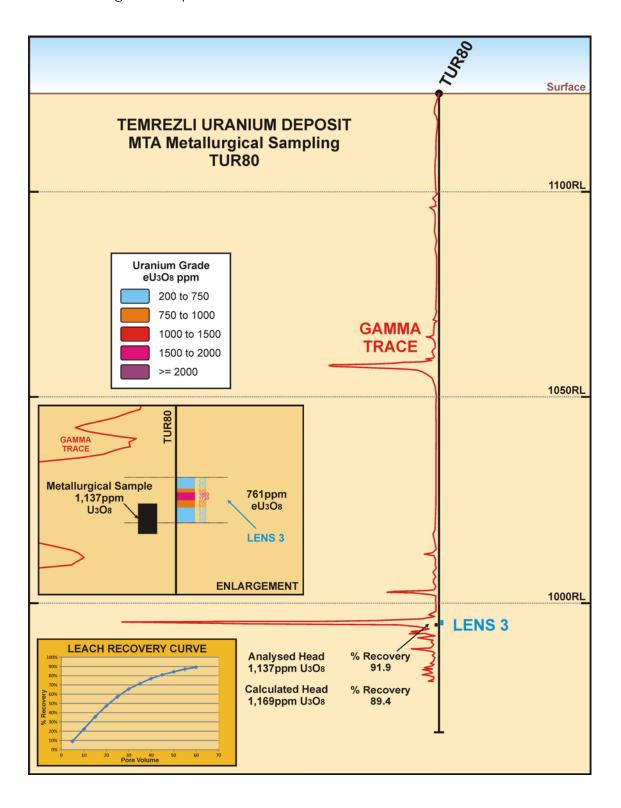
**Figure 3:** TUR76 Cross Section Showing Gamma Trace, Chemical and Equivalent Grades and Metallurgical Sample



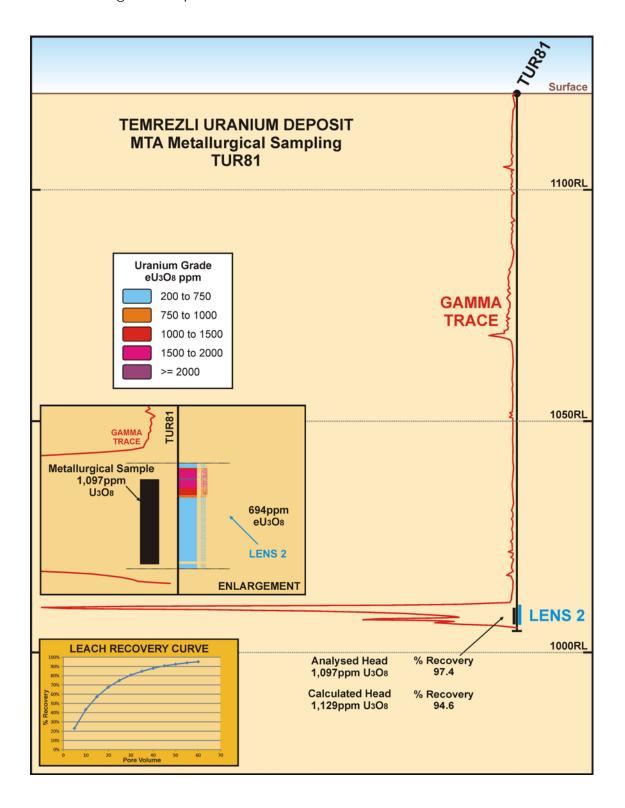
**Figure 4:** TUR78 Cross Section Showing Gamma Trace, Chemical and Equivalent Grades and Metallurgical Sample



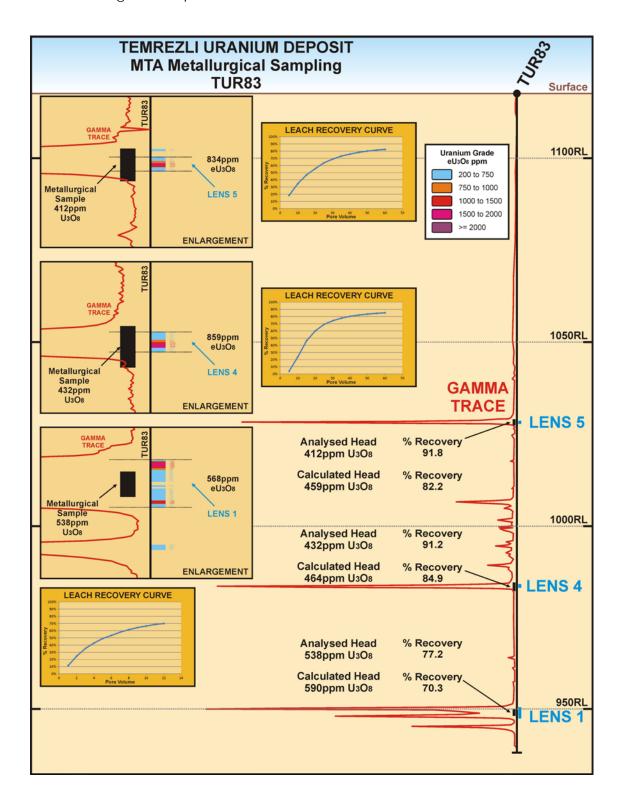
**Figure 5:** TUR80 Cross Section Showing Gamma Trace, Chemical and Equivalent Grades and Metallurgical Sample



**Figure 6:** TUR81 Cross Section Showing Gamma Trace, Chemical and Equivalent Grades and Metallurgical Sample



**Figure 7:** TUR83 Cross Section Showing Gamma Trace, Chemical and Equivalent Grades and Metallurgical Sample





## Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
	Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.	Sampling for the estimation of equivalent uranium grades uses a down-hole electrical and gamma logging unit consisting of a 5MXA-1000-220 Matrix Logging Console in combination with a 4MXA winch assembly manufactured by Mount Sopris, Golden, Colorado, USA. The logging unit is equipped with one fully calibrated Poly Gamma Probe, type 2PGA-1000 that can record in one run either the gamma ray intensity (gamma) in cps, or in another run simultaneously the electrical self potential field (SP) and the so-called single point electrical resistance (SPR).  Sampling for the estimation of chemical uranium grades was by ALS, Turkey by code ME-MS62RT for Th, U by ICP-MS methodology.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	At the Temrezli site, bore hole TUR1 was constructed as a calibration hole and at regular intervals particularly during drilling and gamma-electric logging programs, TUR1 is logged in order to determine whether any instrument drift as a result of poor handling, crystal deterioration, etc., has occurred. To date, TUR1 has been logged twenty-seven (27) times and no instrument drift has been detected. All assays for chemical analyses contain field duplicates, known uranium standards and blank material in order to determine the representivity of the ALS results.
Sampling techniques	• Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	The recorded logging data is controlled by a laptop computer by use of a specifically tailored software, WellCad. For each hole the stored data consists of two LAS-files (Log ASCII Standard), one for the Gamma recording, one for the SP/SPR recording, and two RD- (Raw Data) or TFD- (Tagged Field Data) files, depending on the program set-up. Data is recorded in 10cm intervals from surface to the end of the hole. The data files are forwarded to, Dr Bernie Schmeling, a geophysicist of over 40 years experience mostly with Uranerz GmbH Germany, one of the world's preeminent uranium companies, for further treatment and/or data evaluation and for the estimation of equivalent uranium grades (eU <sub>3</sub> O <sub>8</sub> ). Dr Schmeling's estimated uranium grades are based on the form and intensity of the gamma response measured in the course of logging each anomaly.  Quarter sized HQ drill core was collected for various intervals for chemical analysis.
Drilling techniques	Drill type (eg core, reverse circulation, open- hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	Drilling is either mud rotary from surface, HQ core drilling from surface, or mud rotary with HQ core drilling through the mineralised zone. All holes are drilled vertically from surface and a selected number surveyed down hole using a FlexIT survey tool. Downhole deviation over 150m rarely exceeds 1-2 degrees from vertical. Average depth of drilling is approximately 100m.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	Diamond core recovery is measured and recorded in the database. No significant core loss issue exists and most sampled intervals record better than 90% core recovery.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	The drilling contract stipulates that the hole must be re- drilled if core recovery falls below 90%. For the most part full core recovery is obtained.

	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	None – equivalent uranium grade is estimated from gamma logging whilst chemical uranium grade is estimated from quarter core.
	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.	Geological logging to a resolution of 5cm is undertaken with a record kept of redox, colour, lithology, weathering, grain size, mineralisation, etc. Diamond core is stored at the Company's core farm adjacent to the deposit.
Logging	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	Diamond core is photographed.
	The total length and percentage of the relevant intersections logged.	All drill holes are geophysically logged in full.
	If core, whether cut or sawn and whether quarter, half or all core taken.	For the purposes of collecting selected core material for chemical assay or metallurgical sample the diamond core is either machine sawn, pressure split or cut in half depending upon cementation of the material. On occasion quarter core is hand cut and collected for additional assay.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	Not applicable - mud rotary sections not sampled, entire hole geophysically logged
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	The use of either machine diamond saw, pressure blade or hand cutting using a spatula to effect the sampling of hard, soft or friable core material is appropriate.
Sub-sampling techniques and sample preparation	Quality control procedures adopted for all sub- sampling stages to maximise representivity of samples.	Field QAQC procedures include the insertion of blanks and commercial uranium standards for diamond core sampling. Standards and blanks are inserted at a rate of approximately 1 in every 20 samples. Samples are regularly sent to umpire laboratories for assaying. All QA/QC and umpire laboratory samples have returned satisfactory results. QA for the wireline logging is discussed elsewhere in this table.
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.	Quarter core sampling of core ensures that the sampling is representative of the in situ material (core) collected.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes collected are considered to be appropriate to reasonably represent the material being tested.
	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	The wet chemical analysis for uranium and thorium, consists of a strong mineral acid digest of the pulped core followed by an analysis of the extraction fluid using ICP-MS. These methods generally require between 1 - 200g of sample material and are considered to provide a total analysis for the element of choice.
Quality of assay data and laboratory tests	For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	Instrument calibration is undertaken at regular intervals during the logging program by running the logging unit in the calibration hole, TUR1. Calibration factors and correction factors that are applied to the gamma (cps) data are either as supplied by the manufacturers (calibration factor) or as a consequence of the construct of the hole which is being logged (dry/wet, hole diameter, thickness of metal in hole (casing/rods). The Company has selected samples from core material for uranium and thorium in order to commence the understanding of the radioactive (dis)equilibrium factor (REF) within the uranium decay chain.

	Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	Field QAQC procedures included the insertion of blanks, field duplicates and commercial standards. Acceptable levels of accuracy and precision have been established.
	The verification of significant intersections by either independent or alternative company personnel.	Logging data files are forwarded to, Dr Bernie Schmeling a specialist providing services to the uranium industry.
Verification of sampling and assaying	The use of twinned holes.	There has been no twinned holes to date
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Field data is uploaded at point of collection into Micromine software and verified at point of entry. Data is stored in Turkey and Perth where it is continuously backed-up.
	Discuss any adjustment to assay data.	No adjustments have been made to the assay data.
	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	Drill hole collars were surveyed by DGPS to a horizontal and vertical accuracy of better than 1cm. Selected drill holes were surveyed using FlexIT and found to have little to no deviation from the vertical.
Location of data points	Specification of the grid system used.	The grid system is UTM ED50 Zone 36 (6 degree).
Location of data points	Quality and adequacy of topographic control.	The topographic surface of the deposit and for an area of approximately 10x10km has been generated from satellite imagery by Geoimage to an accuracy of approximately 1m. Topographic contours have been generated at a spacing of 2m.
	Data spacing for reporting of Exploration Results.	The Company's drill hole density at the Tuglu Tepe and Deliler prospects is currently greater than 100x100m.
Data spacing and distribution	Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	The data spacing and distribution is not sufficient to demonstrate spatial and grade continuity of the mineralised horizons.
	Whether sample compositing has been applied.	Sample compositing has not occurred.
Orientation of data in	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	Sampling, whether chemical or equivalent, is in a vertical plane and is perpendicular to the generally flat lying "stratabound" mineralised horizons, thereby minimising any possible sampling bias.
relation to geological structure	<ul> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	Diamond drilling confirmed that drilling orientation did not introduce any bias regarding the orientation of the mineralised horizons.
Sample security	The measures taken to ensure sample security.	Chain of Custody of digital data is managed by the Company. Physical material is stored on site and, when necessary, delivered to the assay laboratory in Izmir, Turkey by independent transporter. Thereafter laboratory samples are controlled by the nominated laboratory which to date has been ALS. The ALS laboratory at Izmir has been visited by CSA Global as part of their QA/QC review and found to be to industry standard. All sample collection is controlled by digital sample control files and hard-copy ticket books.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	There has been no audit or review of sampling techniques and data.

# Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.	The Deliler and Tuglu Tepe prospects are located within the Company's 100% owned Exploration Licences 2008-10035 and 2011-00582, located 5km east of Sefaatli, central Turkey. The ELs have up to a "2% royalty at the pit head" payable to the Government.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	The Exploration Licences are in good standing with no known impediment to the future grant of an Operation Permit. An OL is currently pending for EL2008-10035 whilst EL2011-00582 is valid to May 2015.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The MTA commenced exploration for uranium in the Yozgat – Sorgun area in the early 1980s and over a period of five years discovered uranium mineralisation near the villages of Temrezli and Sefaatli. The MTA's geotechnical studies and evaluations, including the drilling of over 74,000m of drilling at 507 sites and metallurgical test work, continued until 1989. In the past 4 years the Company has re-appraised a substantial amount of this work, including the drilling of a number of "diamond twin" holes, and concluded that their work was completed by competent geoscientists using the best estimation tools available at the time.
Geology	Deposit type, geological setting and style of mineralisation.	The site area comprises granitic basement rocks overlain by younger Tertiary-aged sediments. Exploration is targeting secondary uranium mineralisation within Tertiary age clastic sediments. These sandstone uranium deposits are a redox controlled epigenetic concentration of uranium minerals typically hosted by fine to coarse-grained sediments deposited in fluvial, alluvial, lacustrine or marginal marine environments.
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:	Drill hole information has been provided in this ASX announcements as Table 1 and 2.
	o easting and northing of the drill hole collar	
	o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar	
	o dip and azimuth of the hole	
	o down hole length and interception depth	
	o hole length.	
	If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	

Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.    Value	The exploration results are equivalent U <sub>3</sub> O <sub>8</sub> grades estimated from the empirical observation of the gamma response at down hole intervals of 10 cm. Grade estimation and width is typically estimated using a cut-off count rate of 800 cps, which approximates to 0.001% eU <sub>3</sub> O <sub>8</sub> . However, due to different shapes and character of the recorded anomalous intersections a lower cut-off count rate (circa 600 cps or very seldom lower) is applied. In cases where the probe response shows obvious "under saturation", usually caused by very small needle or small peak type anomalies, the half width of the anomaly determines the interval thickness although the count rate used is the total count rate above the 800 cps cut-off. A description of the methodology is provided in "Campbell, M., et al., 2008, <i>The Nature and Extent of Uranium Reserves and Resources and their Environmental Development in the U.S. and Overseas.</i> A Report by the Uranium Committee of the Energy Minerals Division, AAPG. A brief description of the gamma response is included in a Table accompanying this Public Release.
	Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.	On occasion the estimated grade of a single or double peak gamma anomaly lying within a broader gamma response can be isolated and reported as short lengths of high grade. The methodology for these shorter intervals is as described above.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalents used.
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results.	Down hole length is true width.
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	All drilling is vertical. The uranium mineralisation is strata bound and essentially flat lying or very shallowly dipping. Down hole drill intercepts are essentially true thickness.
	If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').	Down hole length is true width.
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	Appropriate maps of the drilling are included in this and prior ASX release.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	All exploration results for the current drilling program are provided in Table 1.

Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	There is no other substantive exploration data. The Deliler and Tuglu Tepe prospects are at an early exploration phase.
Further work	The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).	The nature and scale of the planned work is provided in this and prior ASX announcements.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Diagrams highlighting areas of possible extensions have been provided in this and prior ASX announcements that were released at the time exploration results became available.