ASX ANNOUNCEMENT

ASX: CXO

6th June 2016

Elevated Lithium Levels Identified in Core's SA tenements

- **Elevated lithium levels identified in Core's SA's Mt Painter tenements**
- **Core's tenements cover Mt Painter Province (MMP) geology that have unusually high levels of lithium and uranium**
- **A number of ASX companies have identified lithium brine targets in the surrounding lakes**
- **MMP geology containing elevated lithium represents the potential source of lithium upstream from these large lithium brine targets**

Core Exploration Ltd's (ASX: CXO) ("Core" or the "Company") is pleased to report that its tenements in South Australia cover rocks that are unusually high in lithium in a region thought to be potential source rocks for lithium brines targeted by a number of peer ASX listed companies (Figure 1).

Core notes with interest that a number of ASX listed companies are pursuing lithium brine targets within an arc of lakes surrounding Core's tenure in the Mount Painter Province (MPP) in South Australia. The catchment to these lakes contains rocks with unusually high levels of hard-rock uranium and lithium.

The MPP is comprised predominantly metamorphics intruded by various suites of Proterozoic granites, and pegmatites.

Core has held a significant area of tenure in this region of South Australia since 2011, which was primarily driven by the unusually high levels of uranium in the rocks of the MPP. Core's previous focus on uranium exploration is in an area well known for hosting large uranium deposits, including the nearby currently operating Beverley, Beverly North and Four Mile uranium mines (Figure 1).

More recently there have been a number of peer companies and independent technical reviews, which have noted the presence of elevated lithium and rare earth elements in the MPP.

Lithium brine targets that have been highlighted include Lake Blanche (ARE), Lake Gregory (GBX), Lake Florence (ADN), and Lake Frome (Figure 1). Lithium brine bodies in lakes are formed in basins where water has leached lithium from surrounding source rocks.

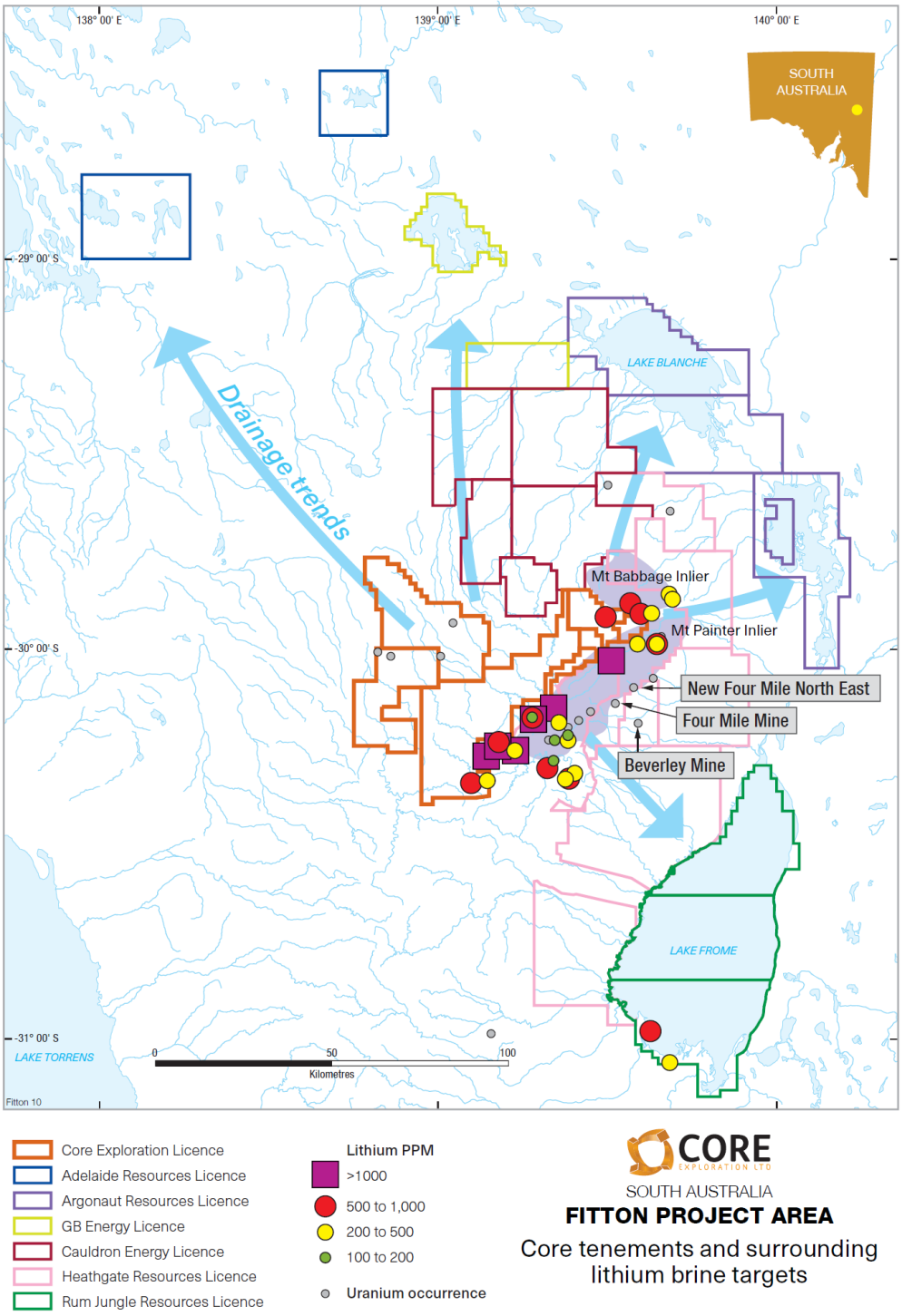

Figure 1. Lithium in regional sampling (Li_2O>100ppm), Core's tenements and lithium brine targets identified by other ASX listed companies.

Core's earlier uranium focussed exploration on these tenements initially followed up elevated uranium in surface rock chips that led to Core's significant discovery of high grade and thick intersections of uranium in 2012/13 at the Fitton Project. Best intersections of high grade shallow uranium mineralisation drilled by Core included 11m @ 1309 ppm U_3O_8 and 60m @ 480 ppm U_3O_8. The Company halted its uranium exploration programme given the depressed uranium price; however the results at the Fitton Project are suggestive of potential for a new and significant uranium project to be delineated with further drilling, and in a better uranium price environment, the Company would plan to follow up this drilling.

Core's MD Stephen Biggins said:

"We'll be following the results of the companies exploring in the lakes around our South Australian tenure with a close interest.

For the time being however, our focus very much remains on increasing our understanding of the potential of our Northern Territory lithium projects where we have built a dominant land position with well-known established pegmatite fields. We are underway with our own rock chip sampling programme in both the Bynoe and Anningie pegmatite fields, with initial rock chips yielding positive results.

We expect to update progressively in the weeks ahead, and these results will be used to direct the next round of more targeted sampling, and to identify priority areas for first drilling for lithium planned to occur in the September quarter".

<u>For further information please contact:</u>

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The information in this report that relates to Exploration Results and Mineral Resources is based on information compiled by Stephen Biggins (BSc(Hons)Geol, MBA) as Managing Director of Core Exploration Ltd who is a member of the Australasian Institute of Mining and Metallurgy and is bound by and follows the Institute's codes and recommended practices. He has sufficient experience which is relevant to the styles of mineralisation and types of deposits under consideration and to the activities being undertaken 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. Biggins consents to the inclusion in the report of the matters based on his information in the form and context in which it appears. The information that was reported in announcement previously released under JORC Code 2004 is the announcement dated 13th May 2013 and titled "Thick and High Grade Uranium Intersections, Fitton Project, SA"

JORC Code, 2012 Edition – Table 1 report template

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (egg 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.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *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.*	Data was sourced SA Geodata Database - Rock Sample geochemistry analysis (SA Department of State Development). Data includes a range of sample types and analysis methods of varying quality over the past 50 years.
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).*	Data was sourced SA Geodata Database - Rock Sample geochemistry analysis (SA Department of State Development)
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.*	Data was sourced SA Geodata Database - Rock Sample geochemistry analysis (SA Department of State Development)

Criteria	JORC Code explanation	Commentary
	• *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.*	
Logging	• *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.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	Data was sourced SA Geodata Database - Rock Sample geochemistry analysis (SA Department of State Development)
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *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.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	Data was sourced SA Geodata Database - Rock Sample geochemistry analysis (SA Department of State Development). Data includes a range of sample types and analysis methods of varying quality over the past 50 years.
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *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.* • *Nature of quality control procedures adopted (eg standards, blanks,*	Data was sourced SA Geodata Database - Rock Sample geochemistry analysis (SA Department of State Development). Data includes a range of sample types and analysis methods of varying quality over the past 50 years.

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	duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	Data was sourced SA Geodata Database - Rock Sample geochemistry analysis (SA Department of State Development)
Location of data points	• *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.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	Data was sourced SA Geodata Database - Rock Sample geochemistry analysis (SA Department of State Development)
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *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.* • *Whether sample compositing has been applied.*	Data was sourced SA Geodata Database - Rock Sample geochemistry analysis (SA Department of State Development)
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *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.*	Data was sourced SA Geodata Database - Rock Sample geochemistry analysis (SA Department of State Development
Sample security	• *The measures taken to ensure sample security.*	Data was sourced SA Geodata Database - Rock Sample geochemistry analysis (SA Department of State Development)
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	Data was sourced SA Geodata Database - Rock Sample geochemistry analysis (SA Department of State Development)

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 security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• Core Exploration via it's 100% owned subsidiary Sturt Exploration Pty Ltd holds Exploration Licence EL 4569, EL 5015, EL 5192, EL 5375 and EL Application 2015/125 • Core's tenements cover Native Tile land held by the Adnyamuthna Traditional Land Association (ATLA). Core has a Work Area Clearance Agreement to conduct exploration with ATLA.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	The history of exploration and mining commenced ~1860 with the discovery of copper in Adelaidean sediments on the western side of the MPP. Between 1860 and the 1920s, many small mines and prospects were opened up on secondary lead and zinc deposits to the west of both basement inliers. During 1910 to 1912 and 1923 to 1937, activity was centred on the uranium deposits near Mt Painter as a source of radium for medicinal purposes. Since 1945, a great deal of exploration has been undertaken by various mining companies. Since 2000 most exploration has focussed on the hard-rock and secondary uranium potential of the MPP and surrounding basin sedimentsSince 1996 the field has been defunct until recently when exploration has begun on ascertaining the lithium prospectivity of the Bynoe pegmatites.
Geology	• *Deposit type, geological setting and style of mineralisation.*	The older metasediments and granites making up the inliers have been assigned a Palaeoproterozoic to Mesoproterozoic age. The MPP is comprised predominantly of Metamorphics intruded by various granites of the 'Older Granite Suite' and granites, granodiorites, leucogranites and pegmatites of the 'Younger Granite Suite'.The inliers are unconformably flanked by Adelaidean metasediments to the west and south, and by Mesozoic and younger sediments to the east. Refer release for additional detail.
Drill hole	• *A summary of all information material to the understanding of the*	Data was sourced SA Geodata Database - Rock Sample geochemistry

Criteria	JORC Code explanation	Commentary
Information	*exploration results including a tabulation of the following information for all Material drill holes:* ○ *easting and northing of the drill hole collar* ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* ○ *dip and azimuth of the hole* ○ *down hole length and interception depth* ○ *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.*	analysis (SA Department of State Development). Data includes a range of sample types and analysis methods of varying quality over the past 50 years.
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* • *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.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	Data was sourced SA Geodata Database - Rock Sample geochemistry analysis (SA Department of State Development). Data includes a range of sample types and analysis methods of varying quality over the past 50 years. All sample above 100 ppmLi2O are displayed in Figure 1.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	• Any potential depths of mineralisation or orientations can only be inferred from geological observations on the surface and hence are speculative in nature.
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*	• See figures in release

Criteria	JORC Code explanation	Commentary
	drill hole collar locations and appropriate sectional views.	
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.*	Data was sourced SA Geodata Database - Rock Sample geochemistry analysis (SA Department of State Development). Data includes a range of sample types and analysis methods of varying quality over the past 50 years. All sample above 100 ppmLi2O are displayed in Figure 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.*	The history of exploration and mining commenced ~1860 with the discovery of copper in Adelaidean sediments on the western side of the MPP. Between 1860 and the 1920s, many small mines and prospects were opened up on secondary lead and zinc deposits to the west of both basement inliers. During 1910 to 1912 and 1923 to 1937, activity was centred on the uranium deposits near Mt Painter as a source of radium for medicinal purposes. Since 1945, a great deal of exploration has been undertaken by various mining companies. Since 2000 most exploration has focussed on the hard-rock and secondary uranium potential of the MPP and surrounding basin sediments. See release for other details.
Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• See release for details