

NEW LITHIUM IN BRINE GEOTHERMAL APPLICATIONS

HIGHLIGHTS

- Altamin has lodged two Exploration Licence (EL) applications at Cesano over 3,240ha in the southern half of Italy's premier geothermal field.
- During the 1990s more than 800 wells were drilled into the geothermal field(s) in this part of Italy. The brines sampled in the vicinity of the ELs contained high lithium values.
- Altamin has a strong track-record of project identification, exploration and regulatory success in Italy due to its focused Italian minerals strategy, resident management and operational team, and extensive in-country networks. If granted, the ELs will form part of our strategic portfolio.

ALTAMIN Limited (Alta or the Company) (ASX: AZI) is pleased to announce that it has lodged applications for two exploration licences (ELs) in the Lazio administrative region of central Italy. The ELs are highly prospective for lithium in geothermal brines and are located at Cesano, about 50km north of Rome.

Exploitation of high-temperature geothermal waters for electricity production is a mature and well understood industry in Italy which started at the beginning of the 20th century in Tuscany, to the north of the ELs under application. The geothermal systems of Tuscany and Lazio are amongst Italy's most prospective (Figure 1) and from the mid-1970s through to the 1990s more than 800 geothermal wells were drilled mainly in the southern part of Tuscany and northern part of Lazio, including in the ELs under application. The average depth of the wells is far below potable water sources, at about 2,000m, and in some cases over 4,000m and this historical drilling is expected to provide an important source of information for project evaluation.

In the location of the EL applications the reservoirs are dominated with high salinity brines (with correspondingly high mineral content) and the reservoirs remain unexploited for geothermal power with the historical data indicating an immediate opportunity for lithium. Brines in the Cesano area contain significant and elevated lithium values, and early studies conducted in the 1990s suggest the potential feasibility of lithium recovery from these fluids. Test Well Cesano C1 (Figure 2) yielded brines from a depth of 1,390m with a lithium content of 350 mg/l and 380 mg/l. For comparison, this exceeds the average 200 mg/l lithium concentrations of the brines of the Salton Sea geothermal field in California which is regarded as the most significant lithium brine resource in the USA.



Geothermal lithium is the focus of Alta's proposed exploration in the Cesano district within the following two ELs (Figure 2):

- The Campagnano EL, of about 1,200 hectares, includes one test well and lies contiguous to, and immediately north and east of an EL granted to Vulcan Energy Resources (ASX: VUL). Vulcan's core focus is to produce lithium from geothermal brines in the Upper Rhine Valley of Germany and their recently granted EL highlights a new prospective venture into Italy; and
- The Galeria EL, of about 2,040 hectares, covers an area some 10km to the south of Campagnano, and includes one geothermal well and two test wells.

If successfully granted the EL's initial work program will be to obtain and assess the historical geological and technical data from the geothermal wells on the property, including well C-16. Also, to assess the feasibility of resampling and full analysis of the geothermal brines from existing well-holes.

Lithium is included, along with cobalt, in the list of 30 critical materials prepared by the European Union for their economic importance and supply risk. Lithium-rich geothermal brines represent an untapped potential resource that can potentially be developed into a valuable supply in Europe. The production techniques for extraction of lithium from geothermal brines are evolving towards commercialisation and the high geothermal gradients present on the ELs under application could assist in meeting some or all of the energy requirements for this process.

Application for these prospective lithium in brine licences is in alignment with Alta's strategy to identify and secure value accretive projects for commercialisation by leveraging its unique exposure to the underexplored mineral potential in Italy. If approved, these lithium ELs will take their place in Alta's growing pipeline of base and battery metals projects strategically situated in the heart of Western Europe close to prospective partners, financiers and within easy logistical reach of the downstream consumer market.

Alta's key focus remains the development and continued exploration of its flagship Gorno Zinc Project, where Definitive Feasibility Study work has commenced and diamond drilling of step-out and in-fill targets will restart shortly upon completion of the current rights issue.

Authorised for ASX release on behalf of the Company by the Managing Director.

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Competent Person Statement

Information in this release that relates to exploration results is based on information prepared or reviewed by Dr Marcello de Angelis, a Competent Person who is a Fellow of the Australasian Institute of Mining and Metallurgy (AusIMM). Dr de Angelis is a Director of Energia Minerals (Italia) Srl and Strategic Minerals Italia Srl (controlled entities of Altamin Limited) and a consultant of Altamin Limited. Dr de Angelis 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". Dr de Angelis consents to the inclusion in this release of the matters based on their information in the form and context in which it appears.

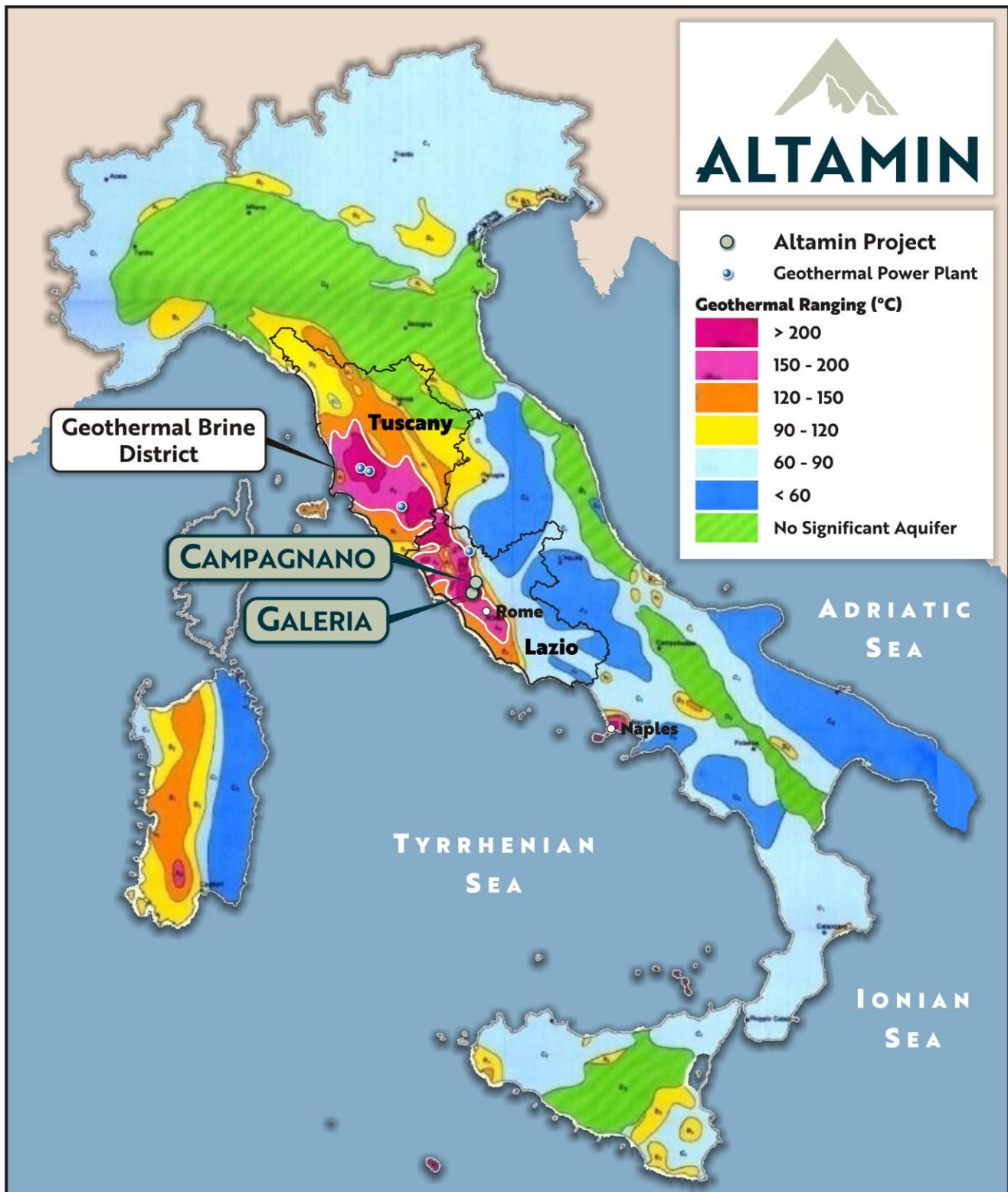


Figure 1: Geothermal Ranking of the Italian Territories (Source: Cataldi et Al, 1995)

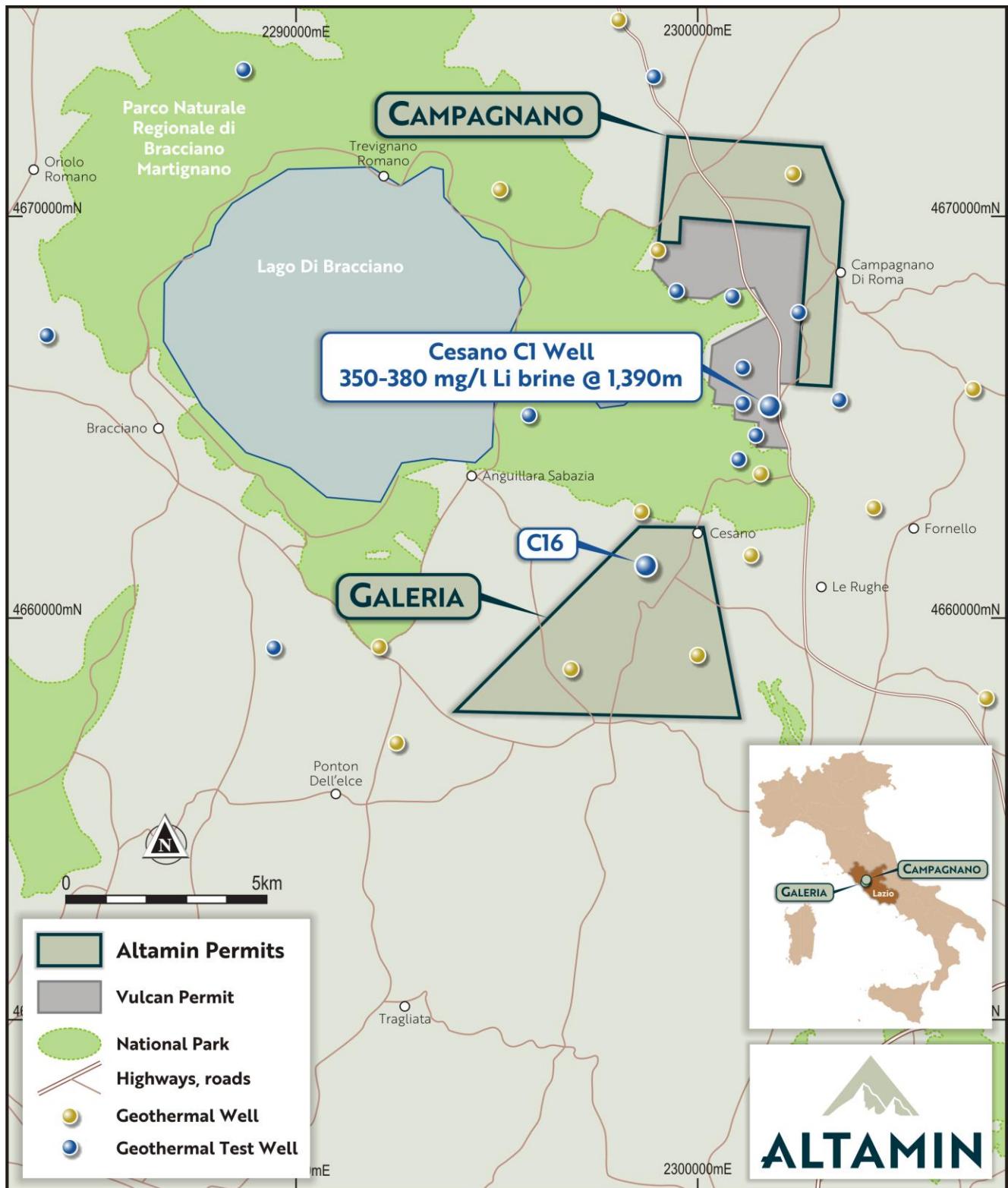


Figure 2: Location of the 2 ELs under application, adjacent to Vulcan's granted EL, with the C1 lithium bearing well and the prospective C16 Well

JORC Code 2012 Table 1

Section 1: Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> • <i>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.</i> • <i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used</i> • <i>Aspects of the determination of mineralisation that are Material to the Public Report.</i> • <i>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.</i> 	<ul style="list-style-type: none"> • Altamin has made application for the ELs, and has yet to undertake any exploration work or detailed historical data search or analysis. • The announcement by Vulcan Energy Resources (Vulcan) dated 24th January 2022 states: "The only deep brine sampling was conducted, historically, on a single geothermal well (Cesano 1) by Calamai et al. (1976). These authors reported that formation water, or brine, samples were collected at the well head at regular approximately one-hour intervals. Hence, the brine should be representative of the brine sampled from the wells perforation window(s).
Drilling techniques	<ul style="list-style-type: none"> • <i>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).</i> 	<ul style="list-style-type: none"> • As the EL is at Application stage Altamin has not conducted any drilling. • Historical drilling techniques are as yet unknown.

Criteria	JORC Code explanation	Commentary
Drill sample recovery	<ul style="list-style-type: none"> • Method of recording and assessing core and chip sample recoveries and results assessed. • Measures taken to maximize sample recovery and ensure representative nature of the samples. • 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. 	<ul style="list-style-type: none"> • As the EL is at Application stage Altamin has not collected any samples. • The announcement by Vulcan Energy Resources (Vulcan) dated 24th January 2022 states: "The only deep brine sampling was conducted, historically, on a single geothermal well (Cesano 1) by Calamai et al. (1976). These authors reported that formation water, or brine, samples were collected at the well head at regular approximately one-hour intervals. Hence, the brine should be representative of the brine sampled from the wells perforation window(s)."
Logging	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • As the EL is at Application stage Altamin has not undertaken any logging.
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • As the EL is at Application stage Altamin has not undertaken any sub-sampling or sample preparation.

Criteria	JORC Code explanation	Commentary
	<p><i>duplicate/second-half sampling.</i></p> <ul style="list-style-type: none"> • <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i> 	
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> • <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i> • <i>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.</i> • <i>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.</i> 	<ul style="list-style-type: none"> • The only deep brine sampling known to the CP was conducted on a single geothermal well (Cesano 1) by Calamai et al. (1976). These authors reported geochemical analyses that included whole rock and trace element atomic absorption analytical techniques, and the analyses was conducted on both filtered and unfiltered brine samples. The historical analysis was performed by spectrophotometry using Perkin-Elmer models 303 and 503 (with deuterium background corrector) equipped with a graphite furnace, P.E. Model HG-72. There is no mention of quality control – quality assurance procedures in the authors manuscript. Source Vulcan ASX release 24 January 2022.
Verification of sampling and assaying	<ul style="list-style-type: none"> • <i>The verification of significant intersections by either independent or alternative company personnel.</i> • <i>The use of twinned holes.</i> • <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i> • <i>Discuss any adjustment to assay data.</i> 	<ul style="list-style-type: none"> • As the EL is at Application stage Altamin has not undertaken any verification of sampling and assaying.
Location of data points	<ul style="list-style-type: none"> • <i>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.</i> • <i>Specification of the grid system used.</i> • <i>Quality and adequacy of topographic control.</i> 	<ul style="list-style-type: none"> • As the EL is at Application stage Altamin has not undertaken any location of data points.

Criteria	JORC Code explanation	Commentary
Data spacing and distribution	<ul style="list-style-type: none"> <i>Data spacing for reporting of Exploration Results.</i> <i>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.</i> <i>Whether sample compositing has been applied.</i> 	<ul style="list-style-type: none"> As the EL is at Application stage Altamin has not undertaken any research into data spacing and distribution of historical drilling.
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i> <i>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.</i> 	<ul style="list-style-type: none"> As the EL is at Application stage Altamin has not undertaken any research into orientation of data in relation to geological structure.
Sample security	<ul style="list-style-type: none"> <i>The measures taken to ensure sample security.</i> 	<ul style="list-style-type: none"> As the EL is at Application stage Altamin has not collected any samples.
Audits or reviews	<ul style="list-style-type: none"> <i>The results of any audits or reviews of sampling techniques and data.</i> 	<ul style="list-style-type: none"> As the EL is at Application stage Altamin has not undertaken any audit or reviews.

Section 2: Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> <i>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.</i> <i>The security of the tenure held at the time of reporting along with any known impediments to obtaining a</i> 	<ul style="list-style-type: none"> The Campagnano and Galeria EL applications are located in the Latium region of Central Italy. The applications have been lodged and procedures are handled by Regione Lazio relevant offices.

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	<i>licence to operate in the area.</i>	
Exploration done by other parties	<ul style="list-style-type: none"> <i>Acknowledgment and appraisal of exploration by other parties.</i> 	<ul style="list-style-type: none"> From the mid-1970s through to the 1990s more than 800 geothermal wells were drilled mainly in the southern part of Tuscany and northern part of Lazio. These were variously assessed for geothermal (power) potential. Future exploration for geothermal lithium may be undertaken by Vulcan Energy Resources (Vulcan). This company was granted an Exploration Licence early in 2022.
Geology	<ul style="list-style-type: none"> <i>Deposit type, geological setting and style of mineralisation.</i> 	<ul style="list-style-type: none"> Geothermal fields are well studied in this part of Italy, mainly for geothermal energy production, which is operating in the Southern Tuscany area located to the north of the Lazio region.
Drill hole Information	<ul style="list-style-type: none"> <i>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:</i> <ul style="list-style-type: none"> <i>easting and northing of the drill hole collar</i> <i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i> <i>dip and azimuth of the hole</i> <i>down hole length and interception depth</i> <i>hole length.</i> <i>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.</i> 	<ul style="list-style-type: none"> Information pertaining to the drill results provided in the text of this release was sourced from a press release issued by Vulcan on 24th January 2022. As the EL is at Application stage Altamin has not been able to access details on drillhole logs and chemical assays. The interest by Altamin in this exploration activity is based on comparisons with other results in similar environments: Lithium contained in geothermal brines is well reported in relevant literature and Altamin intends to follow this line of exploration once the permits are granted by Regione Lazio.
Data aggregation methods	<ul style="list-style-type: none"> <i>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.</i> <i>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade</i> 	<ul style="list-style-type: none"> Not applicable. Not applicable. Not applicable.

Criteria	JORC Code explanation	Commentary
	<p><i>results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</i></p> <ul style="list-style-type: none"> <i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i> 	
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> <i>These relationships are particularly important in the reporting of Exploration Results.</i> <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i> <i>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').</i> 	<ul style="list-style-type: none"> Not applicable. Not applicable. Not applicable.
Diagrams	<ul style="list-style-type: none"> <i>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.</i> 	<ul style="list-style-type: none"> Please refer to the Figures.
Balanced reporting	<ul style="list-style-type: none"> <i>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.</i> 	<ul style="list-style-type: none"> The results reported in this announcement are comprehensively reported in a balanced manner.
Other substantive exploration data	<ul style="list-style-type: none"> <i>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.</i> 	<ul style="list-style-type: none"> Not applicable
Further work	<ul style="list-style-type: none"> <i>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale</i> 	<ul style="list-style-type: none"> Work in the Campagnano and Galeria permit areas will commence if the ELs are granted by Regione Lazio.

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	<p><i>step-out drilling).</i></p> <ul style="list-style-type: none"> ● <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i> 	<ul style="list-style-type: none"> ● Not applicable.