ASX Announcement
4 October 2023

ALTAMIN EXPANDING LITHIUM PROJECT FOOTPRINT 500%

Expert Report Confirms Lazio Geothermal Energy & Lithium Potential

HIGHLIGHTS

- Independent Italian geothermal consultant STEAM Srl (STEAM) confirms the potential for both power production and lithium extraction for Altamin's two initial licence areas in the Lazio Region near Rome.
- Altamin's four new Exploration Licence (EL) applications will increase the project area by over 500%, extending cover over reservoirs considered highly prospective for geothermal energy and lithium from brines.
- The new EL application areas contain historical test wells drilled by ENEL in the 1970s, including the important extraction and injection wells Cesano 1 (C1) and Cesano 5 (C5) respectively.
- STEAM has now been commissioned to prepare a reservoir assessment over the full extent of Altamin's increased area of interest.
- Watercycle Technologies Ltd (Watercycle) is now doing testwork on synthetic brines using their proprietary direct lithium extraction and crystallisation (DLEC™) process.
- Preliminary discussions are being held with potential strategic partners, European funds and financial institutions to explore options to advance the Lazio Project.
- Altamin is also considering the possibility of a future 'spin off' of the assets into a new lithium focused company once key project milestones have been achieved.

Figure 1: Geothermal pilot-plant production test C1 well (1981-82) [Source: STEAM 2023]

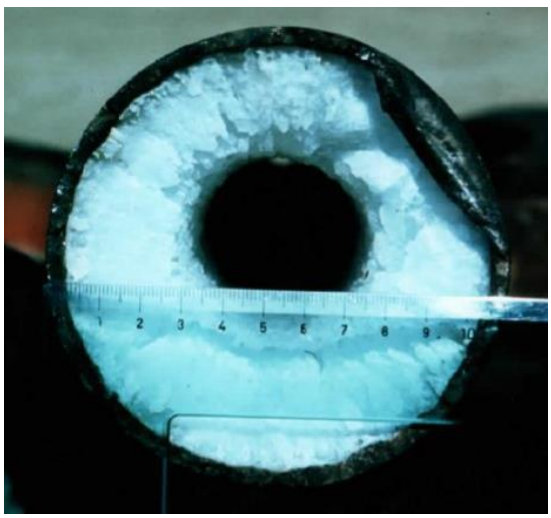

Figure 1a: Some of the C1 pipe work showing natural precipitation of minerals (scale) from brine [Source: STEAM 2023]

ALTAMIN Limited (Altamin or the Company) (ASX: AZI) is pleased to provide an update on significant recent progress made in advancing its Lazio Geothermal Lithium project, comprising the Campagnano and Galeria ELs. The project area is near Cesano approximately 50km north of Rome in an area well known for its geothermal energy, with permits adjacent to the Italian assets of Vulcan Energy (ASX:VUL).

The Company has received a detailed study from expert independent Italian geothermal consultants STEAM Srl, (STEAM) which provides a geological model for the entire prospective district. The study reports a positive reservoir assessment (non-JORC compliant) of potential energy and lithium content contained within the boundaries of the existing Campagnano and Galeria ELs (see Figure 2).

Following this positive assessment Altamin has applied to increase the EL application area by over 500% (from 2 to 6 ELs) to cover a significant portion of the remaining geothermal reservoir, defined by deep drilling in the 1970s. The new permit application areas are known as Melazza, Sabazia, Sacrofano and Cassia.

All new applications have received positive environmental decrees (1st stage of EL grant process) and are now being reviewed by the regional government of Lazio (final stage of EL granting).

STEAM's assessment utilises a data package based on the extensive investigation of the geothermal reservoir undertaken by ENEL (Italy's national utility for distributing electricity and gas) in the 1970s and 80s. The historical data sources include the results of ground geophysics, drilling logs, brine analyses and data from a geothermal pilot plant commissioned to extract brines, generate geothermal power and re-inject spent brines (Figure 1).

The STEAM report authors include geoscientists who worked on ENEL's initial project and have firsthand knowledge of the geological data and the technical aspects of the historical work.

Geraint Harris, MD of Altamin commented:

"*Our work with STEAM has uncovered a valuable body of data on the Cesano brines and the reservoir potential, with context and further insights being gained from the direct link with senior personnel who helped implement this work in the 70s & 80s.*

STEAM's assessment has given us the strong justification to dramatically enlarge our ELs and the data provided has allowed us to engage Watercycle to commence DLEC™ testing. We are aiming to rapidly advance these projects at a time when the EU and Italy are focused on developing critical resources of domestic lithium supply."

The geological model prepared by STEAM is developed from the historical geophysical and borehole data which indicates the presence of a deep (~1500m to 2000m below surface) and continuous reservoir of geothermal fluids under the entire area of Altamin's ELs.

Brines from the boreholes were sampled multiple times by ENEL between the 1970s and 80s. The brine analyses compiled in STEAM's report show significant levels of lithium in multiple holes sampled.

Using this information Altamin applied for new EL areas designed to maximise coverage of the deep reservoir and to encompass many of the historical boreholes, including the production well C1 which had lithium values recorded up to 250 mg/l, and the injection well C5. If granted, this EL package will give Altamin the majority land position in the Cesano geothermal field (Figure 2).

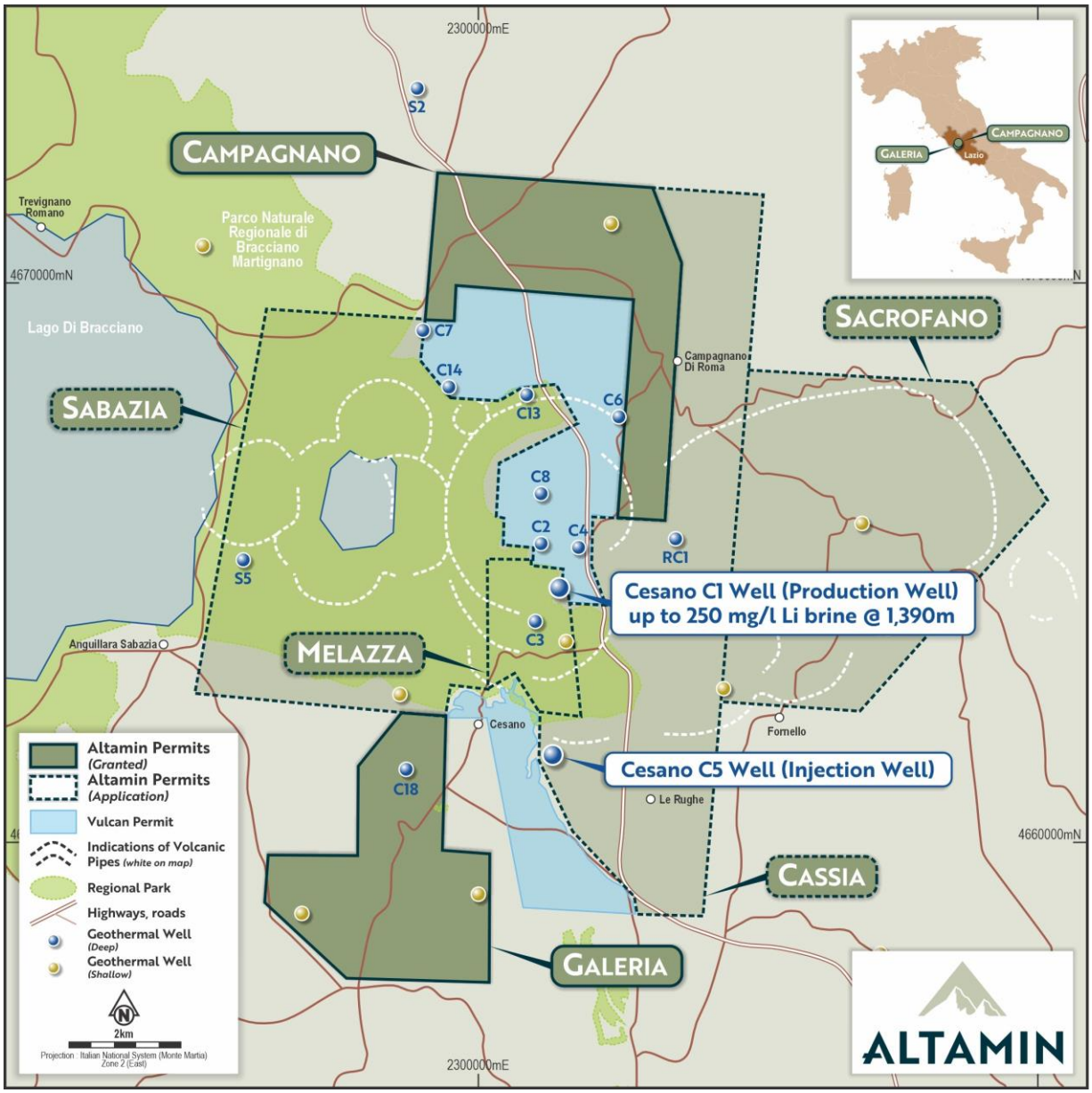

Figure 2: Exploration Licences & New Applications [Source: Altamin]

In addition to extending over the deep reservoir, the ELs cover several volcanic pipes, identified by drilling. It is interpreted that these act as traps allowing brines to re-circulate, resulting in higher grades of contained minerals. An interpreted N-S cross section of the geological model is shown in Figure 3. It is believed that there is reasonable potential to discover additional pipes through exploration, which may add areas of enhanced mineral enrichment.

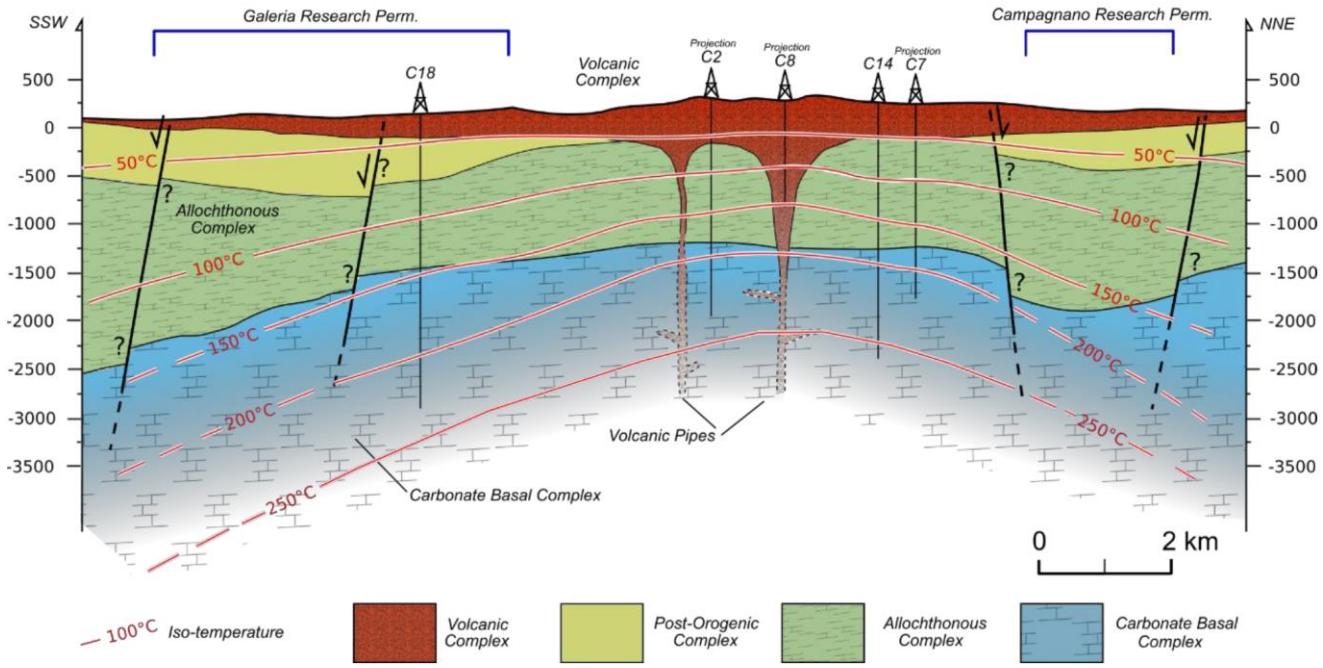

Figure 3: Interpreted N-S cross section of the geological model showing the deep reservoir (Carbonate Basal Complex) and volcanic pipes [Source: STEAM 2023]

ENEL's focus was on geothermal energy rather than mineral extraction, however, brines were sampled many times over a number of years and were analysed for multiple elements and in some cases for lithium content with the peak value reported being 250 mg/l (Source: STEAM). Table 1 lists average sample values taken over a several-year period.

Well	Temp.	Li	Na	K	Rb	Mg	Cl	SO4	B
	T°C	*mg/kg*	*mg/kg*	*mg/kg*	*mg/kg*	*mg/kg*	*mg/kg*	*mg/kg*	*mg/kg*
C-1	212	196	49,386	76,823	384	54.1	21,165	156,625	1,121
C-1	212	163	54,800	78,340	285	6.9	22,100	151,600	1,084
C-1	212	158	53,800	79,400	296	6.4	22,100	147,400	1,075
C-1	212	165	51,000	64,000	280	27.1	20,000	140,000	-
C-1	212	196	47,921	69,132	-	11	21,997	151,030	1,187
C-1	212	173	47,136	62,848	314	23.6	21,604	146,121	1,030
C-1	212	141	44,779	60,491	275	11.8	21,211	141,407	961
C-5	141	75	20,544	14,754	108	5.6	24,774	22,832	1,839
C-7	221	96	19,200	11,000	45	-	21,000	7,800	1,661
C-7	221	-	13,500	12,000	95	-	20,980	7,796	1,661

Table 1: Concentrations of dissolved elements in the Cesano reservoir brines [Source: STEAM 2023]

Reservoir Assessment & DLE Testwork

As a result of STEAM's positive assessment and the positive environmental approvals for the EL applications, Altamin has now commissioned STEAM to update the reservoir assessment of the contained energy and minerals to include all of the areas granted or under application.

Altamin has also commissioned respected UK based Watercycle Technologies Ltd (Watercycle) to undertake direct lithium extraction and crystallisation (DLEC™) test work. DLEC™ is a process-platform that can extract lithium and other critical minerals efficiently in an environmentally responsible manner, incorporating selective extraction, brine concentration and crystallisation stages. Watercycle will assess the potential for direct production of refined lithium carbonate crystals on-site, and without the need for subsequent stages of off-shore refining. To date Watercycle has synthesised samples with the same chemical composition as several historically analysed Cesano brines in order to undertake the testwork.

Macro-Economic Backdrop & Development Strategy

There is a growing awareness within the EU of the urgent need to identify and develop domestic sources of critical minerals supply. This was encapsulated in the EU Critical Raw Materials Act earlier this year wherein one of the policies is to secure at least 10% of each critical mineral (including lithium, cobalt and copper among the 16 minerals listed) from within the EU by 2030. According to Morgan Stanley[1], "The EU's minimum domestic extraction and processing thresholds appear most challenging for lithium refining and cobalt mining."

These increasingly favourable macro-economic conditions supporting new domestic lithium supply, coupled with the shortage of domestic lithium supply options, underpin the Lazio Project's strategic importance.

Against this backdrop, the Company is currently having preliminary discussions with potential strategic partners, European funds and financial institutions regarding future funding, corporate and development options for the Lazio Geothermal Lithium Project. In parallel, Altamin is considering the future option to 'spin off' the assets into a new lithium focused company once key project milestones have been achieved, if this strategy provides a superior value outcome for Altamin's shareholders.

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

For further information, please contact:

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[1] *Morgan Stanley Research, "Assessing the EU's Critical Raw Materials Act", March 2023*

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.

About Altamin

Altamin Limited has a strategic portfolio of projects which is focused on exploring and developing critical minerals supply in Italy which will help facilitate the European energy transition.

The Company's most advanced development asset, the Gorno Project, is currently the subject of a DFS funded under a JV with Appian Italy B.V., supported by Appian Capital Advisory LLP a leading investment advisor to long-term value-focused private equity funds that invest solely in mining and mining related companies.

Altamin's other Italian assets are all brownfields projects for critical minerals aligned with the EU's energy transition goals including this Lazio Geothermal Lithium Project, the Punta Corna Cobalt Project, the Corchia Copper Project. Their development activities are subject to the Company securing funding for each on a project by project basis.

About the Lazio Geothermal Lithium Project

The Lazio Geothermal Lithium Project and the reservoirs underlying the tenements remain so-far unexploited for geothermal energy or minerals. However, geothermal energy production is well known in Italy, with ENEL operating geothermal power plants nearby in Tuscany since 1904.

Altamin's granted and applied for tenements are contiguous and extend over the majority of the Quaternary Sabatini volcanic complex in an area characterised by collapsed calderas. The caldera's underlying breccia pipe(s) have created zones of high permeability allowing hot hydrothermal circulation to enrich lithium and other salts in the vicinity of the deep regional aquifer.

Application for these ELs is in alignment with the EU's Critical Raw Materials Act (CRMA) which facilitates and encourages all EU members to mine, process and recycle critical materials, which includes both lithium and other metals, in Altamin's project portfolio. This is consistent with Altamin's strategy to identify and secure value accretive projects for commercialisation by leveraging its unique exposure to the underexplored mineral potential in Italy.

About STEAM

STEAM srl is an Italian company providing independent professional advice and assistance to both public and private clients worldwide in the field of geothermal energy development. STEAM has been active in the Italian and international geothermal marketplace for more than 35 years, having expertise that covers geological, geophysical and geochemical studies, reservoir engineering, environmental impact assessment, permitting strategy, process engineering, and power plant design.

STEAM and its staff have been involved in several international and national geothermal energy and mineral extraction projects from pre-feasibility to feasibility and design and construction phases. With recent activities including: preparing an ESIA for drilling in Nicaragua, Owner's Engineering in Nicaragua, the Philippines and Kenya (which involved greenfield development and brownfield refurbishment on plants up to 320 MW); the preparation of more than 20 geothermal development projects in different parts of Italy, including obtaining relevant authorizations; and studies of several projects for co-production of minerals and power.

About Watercycle Technologies

Watercycle, spun out from the University of Manchester and backed by business accelerator Aer Ventures, is an innovative, sustainability-driven deep tech company focused on developing high-yield, low-cost mineral extraction, and water treatment systems. Its advanced direct lithium extraction and crystallisation (DLEC^{TM}) technology is capable of selectively capturing valuable minerals while treating highly concentrated brines. It is initially being utilised in lithium production from sub surface water and brines, as well as lithium-ion spent battery recycling, particularly relevant with respect to the current global transition towards a Circular Economy.

The Company's patented membranes and systems are being developed and optimised by its UK and international R&D team led by Dr Seb Leaper and Dr Ahmed Abdelkarim to target industries including mining, desalination, agriculture, textiles, and food & beverage. Importantly, the modular technology delivers dramatic reductions in costs and carbon emissions with one of the important by products being fresh potable water.

JORC Code 2012 Table 1

Section 1: Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (e.g., 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.*	• Altamin has not yet undertaken any field exploration work. However, historical sampling of the brines was conducted by ENEL during the period 1970 to 1980s, in summary: Many samples were collected during the short production tests (Corsi et al., 1980), in order to determine the physical and chemical characteristics of the brine. Five types of sampling were obtained: ○ In bottle filled with silicon oil set up at the wellhead to collect the brine under pressure conditions; this method allows to sample slowly the brine having inside the bottle no flash; ○ Collecting brine downstream of the weir; ○ Using an in-hole Küster sampler; ○ Collecting scaling samples inside and outside the pipes; ○ Deviating the two-phase flow on a bypass and closing at the same time two valves. The results of the chemical analyses were a little different, depending on the type of sampling adopted. It must be remembered that the wells produced a two-phase mixture of brine and steam + gas. Table 1 provides a summary of the analyses.
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).*	• Altamin has not conducted any drilling. • Historical drilling technique for the geothermal test wells was by a combination of rotary or percussion methods.

Criteria	JORC Code explanation	Commentary
Drill sample recovery	• *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.*	• Altamin has not collected any samples. • Historically, during drilling cuttings were collected and subsequently analysed for rock type and well field information.
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.*	• Altamin has not undertaken any logging. • Historically, during drilling cuttings were collected and geologically logged.
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.*	• Altamin has not undertaken any sub-sampling or sample preparation.

Criteria	JORC Code explanation	Commentary
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, duplicates, external laboratory* • *checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	• Not applicable • Historically, to design the exploitation plant for geothermal brine, it was necessary to know the brine's physical properties. Various laboratory tests were conducted (Conti et al., 1980) to determine the vapor pressure and enthalpy of C1 brine. The main results are summarized in Allegrini et al., 1982. In summary, the results obtained confirmed that the quality of the data agree within 5%.
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.*	• Not applicable • With respect to historical data, see above.
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.*	• The location of test wells and datum points relating to ground geophysical studies in the STEAM report are recorded using the geodetic coordinate system Monte Mario (Rome) European Petroleum Survey Group (EPSG) 4806.
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.*	• The overall deep borehole drill density is approximately 2.5km^2 per hole, with the drill density increasing to 0.25km^2 per hole in the vicinity of the extraction and injection pilot testing. This density is sufficient to establish the geological continuity and that of the regional reservoir.

Criteria	JORC Code explanation	Commentary
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.*	• The general orientation of the historical drilling campaign is orthogonal to the trend of the regional stratigraphy, other than the vertical volcanic pipes. See Figure 3 (Interpreted NS cross section).
Sample security	• *The measures taken to ensure sample security.*	• The data is historical and no sample is available to Altamin. • However, from discussions with STEAM personnel who were present, sample security was to industry standard.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• The data has been reviewed by STEAM SRL and their personnel who worked on the project during the period 1970-80.

Section 2: Reporting of Exploration Results

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.*	• All ELs are located in the Lazio region of Central Italy. Two exploration licences have been granted for a period of two years, renewable for a further two year period. • Four ELs are under application by the same regulator and they have all had their VIA Exclusion decrees approved. These are now being processed for final grant. Conditions are expected to be similar to the granted ELs.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• 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.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The Cesano geothermal field is situated in the eastern sector of the Quaternary Sabatini Volcanic Complex, East of the Bracciano Lake,

Criteria	JORC Code explanation	Commentary
		characterized by many volcanic emission centres scattered over an extensive area of several hundreds of square kilometers. • The uniqueness of the volcanic activity is the gradual increase in the water-magma interaction, which gave rise to hydro-magmatic explosions with the deposition of typical pyroclastic containing ejecta of the sedimentary substratum. This phenomenon is due to the rise of magma in the paths and chimneys that cross the main buried regional confined aquifer. In addition, the rigid tensional tectonic activity was determinant as far as the distribution and westward migration of the volcanic centers were concerned (Baldi et al., 1982). • Due to these phenomena, the Cesano area is entirely covered by volcanic products with predominantly alkaline potassic chemistry. The surface products are mainly pyroclastites, pyroclastic, and lava flows. • Over time, the activity has become increasingly hydromagmatic due to the water-magma interaction, which has given rise to hydromagmatic deposits emitted from several centers (about 85,000 years ago, Villa 1993). • In particular, C1 and C8 wells intercepted several hundreds of meters of volcanic products interpreted as diatreme breccias, containing a high quantity of fragments of the shallow and deep substrate in a coarse matrix of volcanic elements such as scoriae, lavas, and tuffs. Due to water and magma interaction and the subsequent circulation of hot mineralizing fluids in the breccias, these structures are impregnated with newly formed mineralization (Funiciello, et al., 1979). As a result, the surface deposits corresponding to the explosions of the diatremes contain approximately 65% of deep sedimentary lithics (Buttinelli et al., 2011).
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:* ○ *easting and northing of the drill hole collar* ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*	• Not applicable.

Criteria	JORC Code explanation	Commentary
	○ *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.*	
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.* • *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.*	• Not applicable. • Not applicable. • Not applicable.
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 (e.g. 'down hole length, true width not known').*	• Not applicable. • Not applicable. • Not applicable.
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.*	• Please refer to the Figures.
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*	• The results reported in this announcement are comprehensively reported in a balanced manner.

Criteria	JORC Code explanation	Commentary
	avoid misleading reporting of Exploration Results.	
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.*	• Not applicable
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).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Further work is planned to extend the STEAM reservoir assessment to include the area covered by the new applications, known as Melazza, Cassia, Sabazia and Sacrofano, and to undertake testwork on synthetic brines to determine the application of direct extraction technology for lithium recovery. • Refer to Figure 3 which shows permit areas granted and under application.