ASX Announcement

27 February 2024

TARGETS GENERATED AT GASCOYNE EAST PROJECT

Odessa Minerals Limited (ASX:ODE) ("Odessa" or the "Company") is pleased to announce that it has completed an airborne gradiometer magnetic and radiometric survey over the Company's **+2,100 square kilometre** tenement package at its Gascoyne East Project ("Project") in the Gascoyne region of Western Australia.

Highlights:

- **Completion of gradiometer magnetic and radiometric surveys at the previously under-explored Gascoyne East Project**
- **Multiple major mantle-tapping structures transect the Project area along strike from known mineralisation, indicating strong prospectivity for:**
  - Iron Oxide Copper-Gold (IOCG) mineralisation
  - Sedimentary Exhalative (SEDEX) and sedimentary-hosted targets, analogous to the Abra Deposit
  - Intrusion/magmatic-related Cu-Ni-Co-PGE mineralisation
  - Lode-gold mineralisation analogous to the Glenburgh and Mt Edgerton deposits
- **At-surface uranium radiometric anomalies also identified**
- **Ongoing geophysical interpretation for target ranking and immediate exploration**

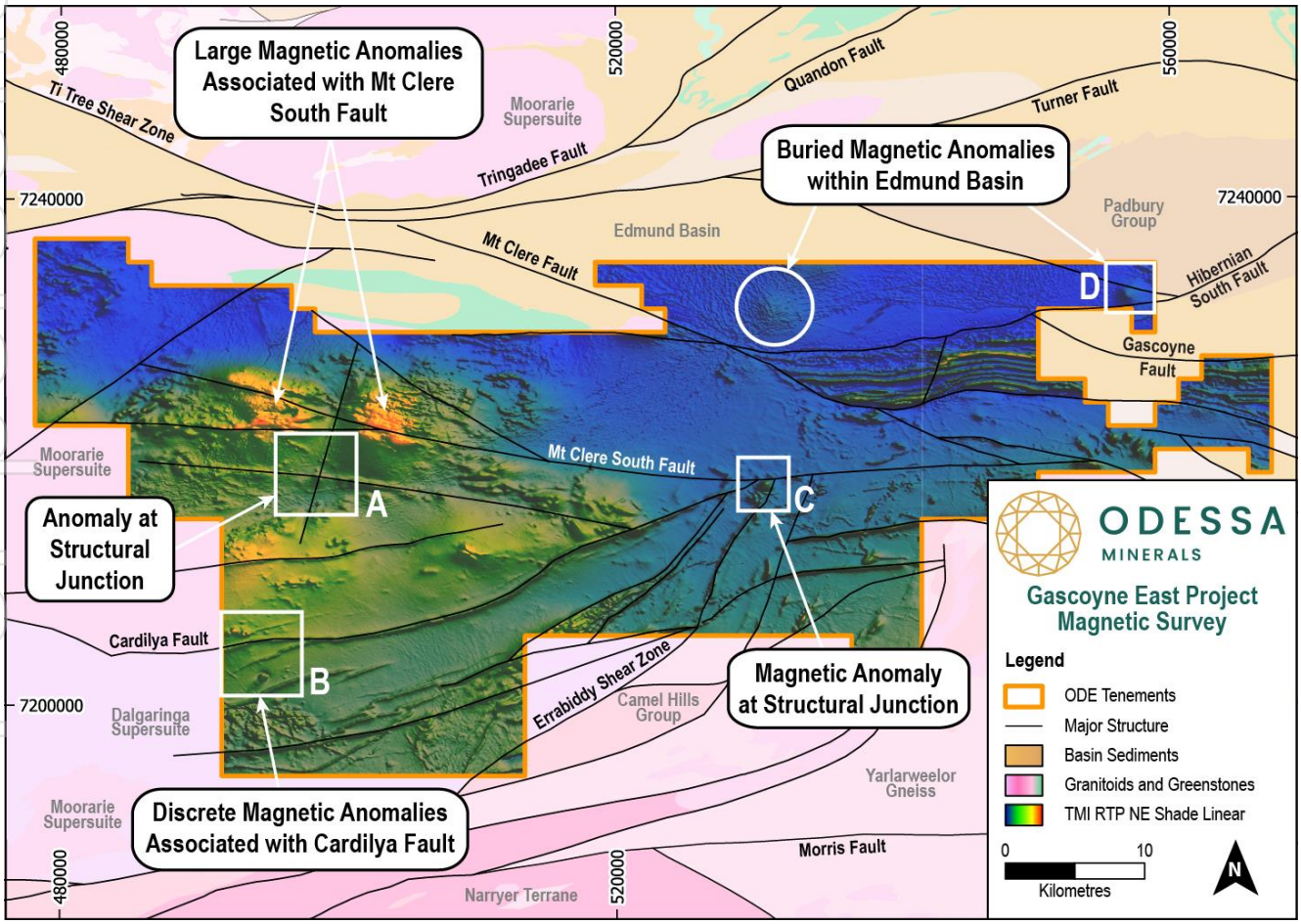

Figure 1: TMI RTP NE shade magnetic imagery overlain by structures. Primary magnetic anomaly targets identified. GSWA 1:500k bedrock geological and structural underlay. White boxes show the areas of interest displayed in Figure 2.

Magnetic Anomaly Targets

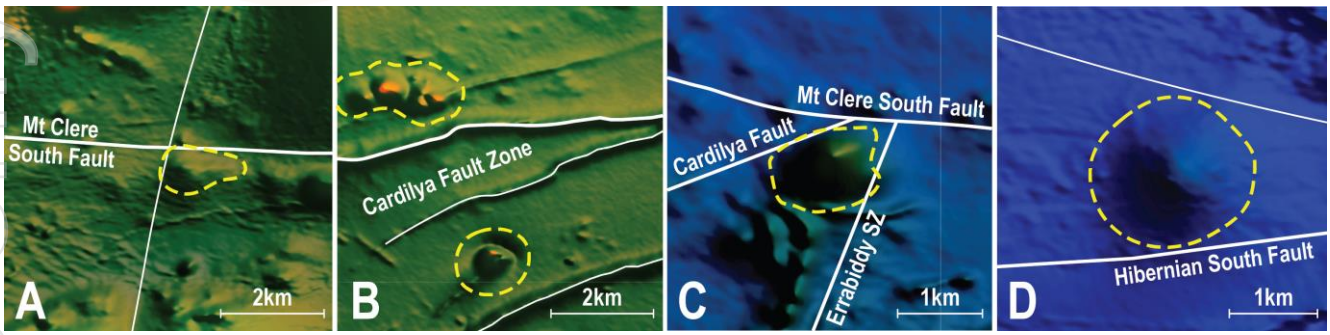

Figure 2: Zoomed areas of the white boxes (A-D) referenced in Figure 1. Yellow dashes outline magnetic features of interest associated with the translithospheric structures.

Geophysical consultants are completing inversion modelling and litho-structural basement mapping to aid with understanding the depth and geometry of the anomalies. Odessa will subsequently complete target ranking and plan immediate follow-up exploration and subsequent drilling.

Radiometric Targets

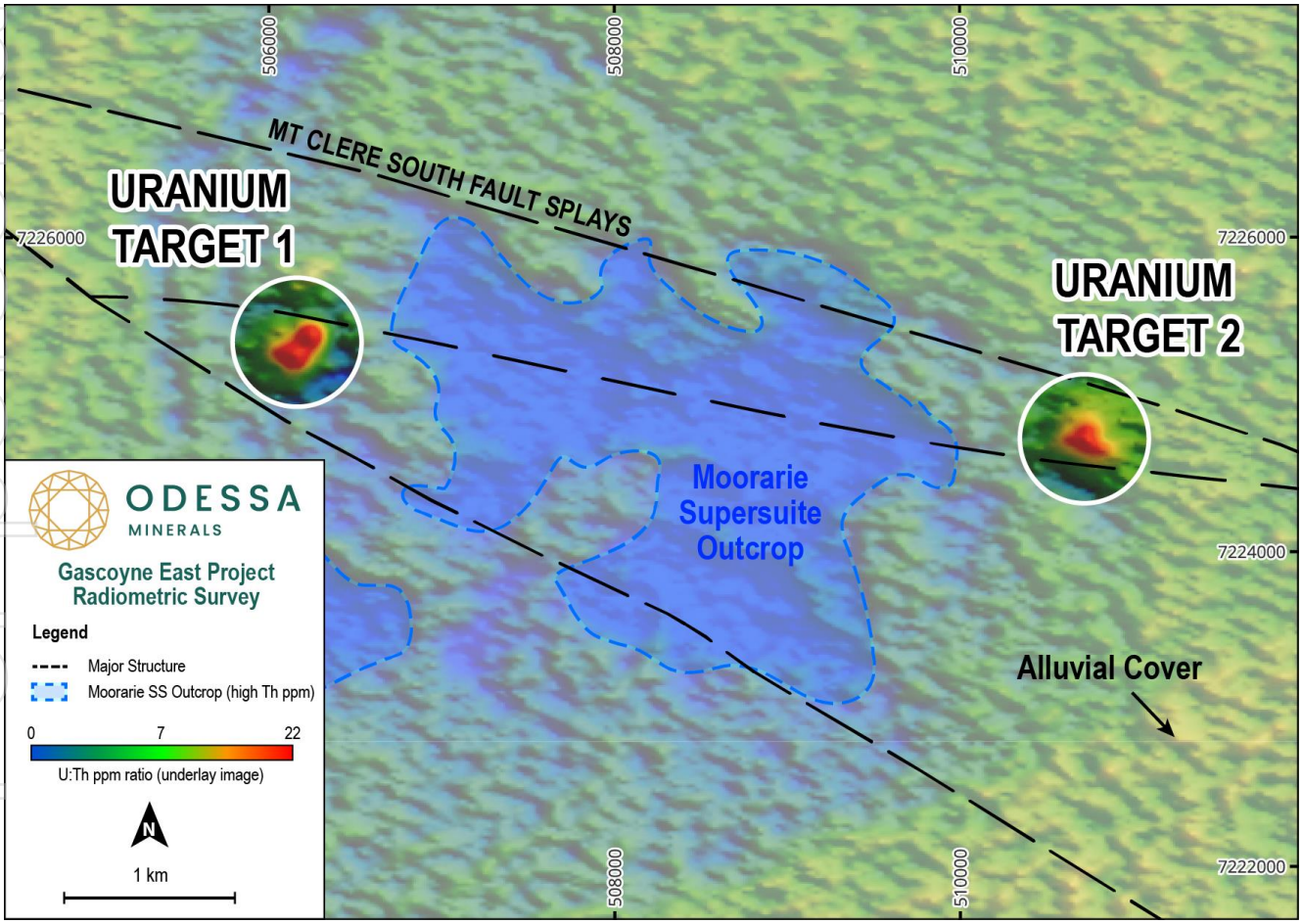

Figure 3: Uranium targets highlighted in U:Th ppm ratio radiometric image, showing the proximity of anomalies to splays of the Mt Clere South Fault that dissect the outcropping Moorarie Supersuite.

Several uranium anomalies have been highlighted by radiometric survey data across the Project, coincident with calcrete deposits mantling fault structures within an outcrop of Moorarie Supersuite granite. On-ground mapping and sampling is to be conducted to assess the potential for Calcrete-Type and concealed structurally-hosted uranium mineralisation

David Lenigas, Executive Director of Odessa, said: *"The Gascoyne East Project is the most under-explored area of the emergent Gascoyne Province. This new, detailed geophysical dataset is the first high-resolution survey over the area and proves that major geological structures transect the project area along strike from known mineralisation.*

The initial results from the survey have provided multiple exciting large-scale multi-commodity targets that will require follow-up exploration and drill testing.

Magnetic Inversion and structural modelling are underway to progress our understanding of the new anomalies and aid with target ranking. The Gascoyne East Project is shaping up to be an exciting frontier for Odessa's exploration throughout 2024."

Gascoyne East Project

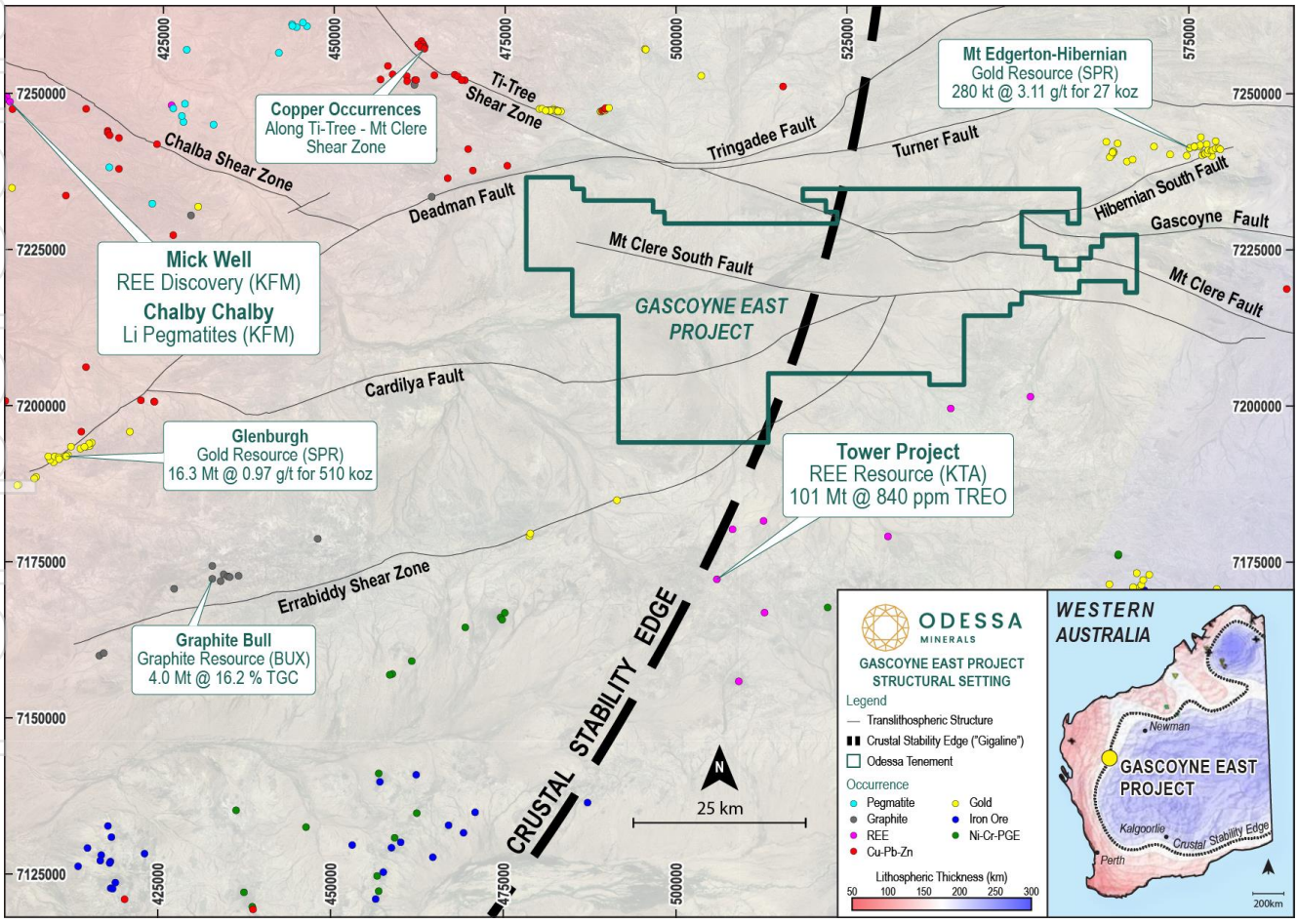

Figure 4: Structural architecture across the Gascoyne East Project, showing the confluence of major mineral-endowed shear zones (GSWA), faults and the crustal stability edge (Czarnota et al., 2019) relative to mineral occurrences (Minedex).

The Gascoyne East Project consists of 2,108km^2 of exploration licences and covers the southern margin of the Edmund Basin and metamorphic core of the Proterozoic Capricorn Orogen. The Project encompasses the confluence of major, metal-endowed trans-lithospheric structural corridors (including the Ti-Tree, Errabiddy, Chalba, Cardilya, Mt Clere and Hibernian South Fault/Shear zones), offering favourable fluid conduits spanning multiple, overprinting metal-endowed events.

The Project is transected by a recently interpreted deep crustal stability edge that is a focus for mantle-derived fluid upwelling and heat-driven hydrothermal processes. These tectonic edges are associated with ***85% of large-scale sediment-hosted base metal deposits globally*** and is strongly correlated with porphyry, IOCG and Pb-Zn deposits.

Critically, the basement lithologies pre-date known lithium pegmatite and rare earth events, such as the Mutherbukin event (carbonatites) and Edmundian Orogeny (Yinnetharra LCT pegmatites). As such, the Project offers a unique geological setting of multiple metal-rich structural events converging at the location. Successful exploration has been conducted across the broader region, yet the Gascoyne East Project has remained relatively unexplored.

About Odessa Minerals

Odessa Minerals Ltd is an ASX listed company (Ticker: ODE) that holds exploration licenses over 3,000 sq km of highly prospective ground in the highly sought-after Gascoyne region of Western Australia. Odessa's Projects are located in close proximity to significant recent lithium/pegmatite discoveries and lie in a north-south corridor of recent world class REE carbonatite discoveries.

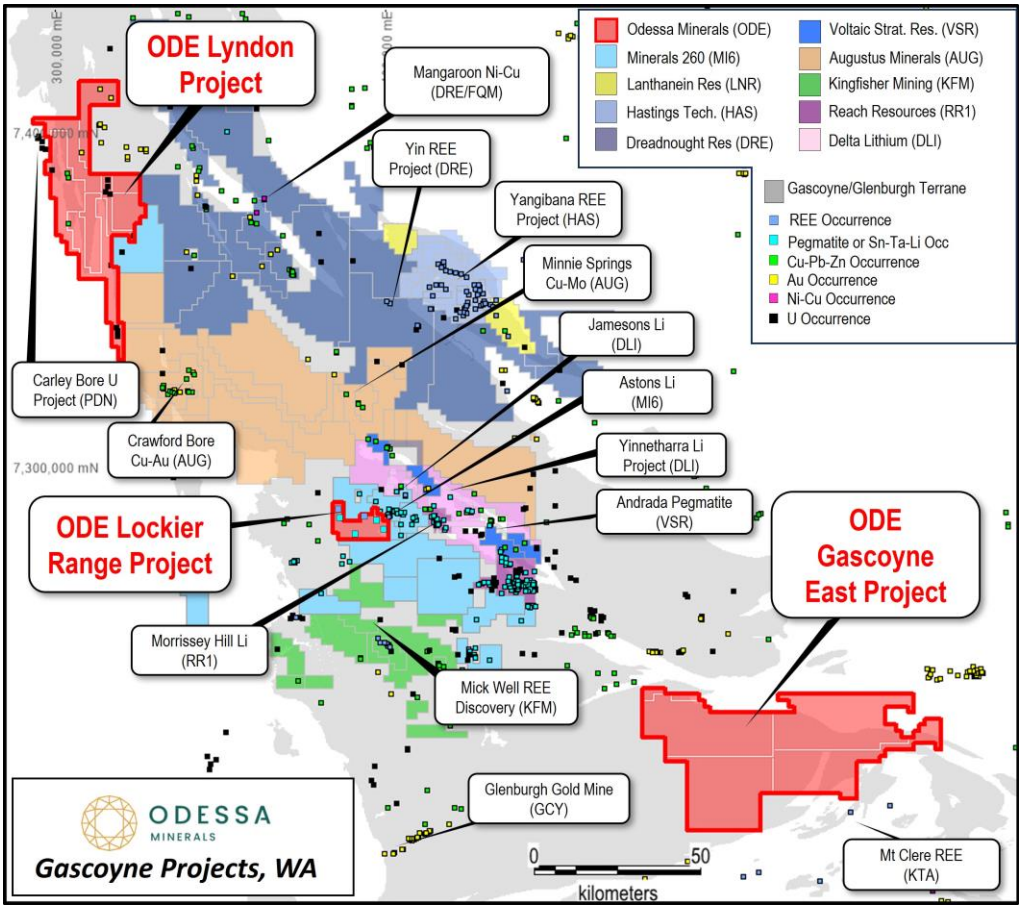

Figure 5: Odessa Minerals regional Gascoyne Project location map overlain with Geological Survey WA Minedex Occurrences.

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Competent Persons Statement

Information in this report relating to exploration information is based on and fairly represents data compiled by Odessa Minerals and reviewed by Peter Langworthy, who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Langworthy is Managing Director (Principal Consultant) of Omni GeoX Ltd and has sufficient 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 by the 2012 Edition of the Australasian Code for reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Langworthy consents to the inclusion of the data in the form and context in which it appears.

JORC CODE, 2012 EDITION – TABLE 1 REPORT

1.1 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 (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 (e.g., '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 (e.g.,* *submarine nodules) may warrant disclosure of detailed information.*	• Not applicable: No sampling reported in this release
Drilling techniques	• *Drill type (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g., 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).*	• Not applicable: No drilling reported in this release.
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.* • *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.*	• Not applicable: No drilling reported in this release.
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.*	• Not applicable: No drilling reported in this release.

Criteria	JORC Code explanation	Commentary
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.*	• Not applicable: No drilling reported in this release.
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 (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.*	<u>Survey Parameters</u> • Positional: Novatel OEM DGPS receiver • Altimeter: Bendix/King KRA 405 radar altimeter with 0.3m resolution and 20Hz sample rate • Barometry: RSS+/-0.25% FS at constant temperature (600-1100hPa) • Line spacing: 100m • Flight Height: 40m Gradiometer Magnetic Survey • Magnometer: G-823A caesium vapour magnetometer • Tail sensor mounted in a stinger housing, plus wingtip sensors with 13.2m separation • Resolution: 0.001nT • Sensitivity: 0.01nT • Sample Rate: 20Hz (approximately 3.5m) • Compensation: 3-axis fluxgate magnetometer Spectrometry/Radiometric Survey • Spectrometer: RSI RS-500 gamma-ray spectrometer incorporating 2 x RSX-4 detectors • Total Crystal Volume: 32L • Channels: 1024 • Sample Rate: 2Hz (approximately 35m) • Stabilisation: multi-peak automatic gain <u>Calibrations and Checks</u> • Diurnal base stations were monitored by ground crew • The base station magnetometers were located near the Yarlarweelor Station and Mt Clere Station Airstrips Magnetometers: A compensation box was flown prior to survey. The compensation consisted of

		a series of pitch, roll and yaw manoeuvres in reciprocal survey headings at high altitude. The measured output from the 3-axis fluxgate magnetometer was recorded and used to resolve a compensation solution. This solution was applied when post-compensating all survey magnetometer data to remove manoeuvre effects and heading error. GPS: GPS accuracy tests were performed by accumulating GPS readings for approximately 5 minutes whilst the aircraft was static. All readings (X, Y, Z) were within 2 metres. Altimeters: Prior to commencement of survey production, the radar altimeter was checked for linearity by way of a swoop test over flat terrain.
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.*	• Upon completion of each flight all survey data were transferred from the acquisition system to the infield data processing computer. Using customised techniques, the data were checked for any errors and compliance with specifications. • All profiles were visually checked. The flight path was plotted with colour-coded indicators of any out of specification height or cross-track. The data were gridded and visually inspected for errors and compared for continuity with previous flights. • The summed 256-channel spectra were plotted and inspected. The test line and pre- and post-flight ground calibration data were tabulated and reviewed. • External geophysical consultants at Terra Resources conducted QAQC checks on data. The following steps were performed during the magnetics processing: • Review or application of compensation • Parallax correction • Diurnal filtering and subtraction • IGRF correction using the updated current IGRF model • Tie line levelling • Micro levelling • Gradient enhanced grid processing Radiometric processing consisted of the following steps: • 256-channel spectral noise reduction using the NASVD method • Dead time, cosmic and background radiation corrections • Energy recalibration • Channel interaction correction (stripping) and extraction of ROIs • Height corrections using STP altitude to the nominal survey height • Radon removal using the Spectral Ratio method • Levelling where required

Criteria	JORC Code explanation	Commentary
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.*	Grid: GDA94 Zone 50S <u>Survey Parameters</u> • Positional: Novatel OEM DGPS receiver • Altimeter: Bendix/King KRA 405 radar altimeter with 0.3m resolution and 20Hz sample rate • Barometry: RSS+/-0.25% FS at constant temperature (600-1100hPa) • Line spacing: 100m • Flight Height: 40m Magnometer • Sample Rate: 20Hz (approximately 3.5m) • Compensation: 3-axis fluxgate magnetometer Spectrometry • Sample Rate: 2Hz (approximately 35m) • Stabilisation: multi-peak automatic gain Topography • Altimeter and GPS heights visually inspected for errors and any spikes were corrected • Altimeter data were then subtracted from the GPS height to create the Digital Elevation channels • Tie line levelling was applied by way of a least squares minimisation procedure using a polynomial fit of order 0 over the cross over errors calculated between the traverse and tie line intersections • Using MAGPSEC Airborne Surveys' proprietary micro levelling techniques, some selective micro-levelling was carefully applied and the resulting channel was then considered final • At all stages of processing the data were stringently checked against and compared to the previous processing stage to ensure the integrity of the data was protected and no detail was removed or altered.
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.*	• Traverse Line spacing: 100m • Traverse Line Direction: 000-180 degrees • Tie Line spacing: 1km • Tie Line Direction: 090-270 degrees • Flight height 40m Magnometer • Sample Rate: 20Hz (approximately 3.5m) • Compensation: 3-axis fluxgate magnetometer

		Spectrometry • Sample Rate: 2Hz (approximately 35m) • Stabilisation: multi-peak automatic gain
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.*	• Not applicable: No new drilling reported in this release
Sample security	• *The measures taken to ensure sample security.*	• Not applicable: No new drilling reported in this release
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data*	External geophysical consultants at Terra Resources conducted QAQC checks on data and processing of magnetic and radiometric images from MagSpec data.

1.2 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.*	Gascoyne East • E52/4182, 4183, 4184, 4186, 4187, 4198 are under the name of Odessa Lyndon Pty Ltd, a 100% owned subsidiary of Odessa Minerals. Odessa holds 85% interest in the projects. • 15% interest in the projects is held by Odette One Pty Ltd, a private company. Odette One Pty Ltd is free carried until decision to mine, and if it elects not to contribute at decision to mine stage, it dilutes to an uncapped 1.5% Net Return Royalty.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	Gascoyne East • There is minimal previous exploration work on the Gascoyne East Project area • There are no known drill holes in Open File data
Geology	• *Deposit type, geological setting and style of mineralisation.*	Gascoyne East • The project area is 90% covered by alluvial sediments/transported cover. The interpreted bedrock geology consists of Gascoyne and Glenburgh terrane metamorphosed intrusions and meta-sediments. The Edmund Basin sediments on-lap on the northern part of the project area. The area is considered prospective for REE carbonatite, base-metal deposits, lithium pegmatites and gold throughout the metamorphic terranes, as well as graphite associated with the basal sequences of the Edmund Basin sediments.

Criteria	JORC Code explanation	Commentary
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* ○ *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.*	• Not applicable: No new drilling reported in this release
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: No new drilling reported in this release
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: No new drilling reported in this release

Criteria	JORC Code explanation	Commentary
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.*	• Maps included in the body of this 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.*	• Maps included in the body of this release.
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.*	• Geological maps in this release are derived from GSWA open file 1:500k bedrock geology and structural data • The location of, and information/diagrams relating to, the crustal stability edge are sourced from and modified after: Czarnota, K., Hoggard, M., Richards, F., Huston, D. & Jaques, A. (2019). Gigayear stability of cratonic edges controls global distribution of sediment-hosted metals.
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.*	• Magnetic Inversion modelling and litho-structural interpretation of survey data. • Mapping and Sampling of uranium radiometric anomalies. • Planning of further exploration including drilling and other geophysical methods (e.g. gravity) based on the outcomes from geophysical interpretation.