COMPELLING GRAVITY TARGETS GENERATED AT SPECTRUM AND FENTON SOUTH

New gravity data continues to support the emerging copper story at Spectrum

DeSoto Resources Limited (ASX:DES or 'Company') advises that ground gravity surveys at the Spectrum and Fenton Projects, located in the Northern Territory, have been completed. Preliminary assessment and modelling of the gravity data has upgraded targets across both Project areas.

Geophysical Survey Highlights

- Atlas Geophysics completed high resolution 500m x 125m spaced ground gravity surveys over Spectrum and Fenton South Projects (Figure 1).
- Preliminary assessment and modelling of the newly acquired gravity data has further upgraded and refined targets at Spectrum (Quantum and Vesper targets) and Fenton South Projects (Figure 2).
- Wavelet analysis ("worming") of the gravity data shows that a strong gravity gradient is associated with the N-S striking Fenton Shear Zone (FSZ), confirming that the Quantum, Vesper and Fenton South targets are all situated along it and are coincident with zones of NE-SW striking cross faulting.
- The FSZ at Quantum and Vesper targets coincide with Mobile Metal Iron (MMI) copper soil anomalism and a steep fault offset through cover rocks connecting the surface soils to the basement below.
- The Company considers these areas of coincident structural complexity and geochemical anomalism highly prospective for structurally controlled copper-gold mineralisation (Figure 3).

Emerging copper story with compelling targets at Quantum and Vesper

- The gravity survey at Spectrum has mapped the northern continuation of the FSZ that truncates and may locally control REE-Au mineralisation at Quantum intersected by historic drilling[1]. The structure is interpreted to have at least 8kms of prospective strike coincident with the MMI copper soil anomalism.
- This 8km trend remains largely untested by previous drilling and is considered prospective for Mary Kathleen style Cu-REE and similar high-grade copper skarn-style mineralisation.
- At Vesper, the gravity survey data shows two moderate amplitude ~0.5mgal residual anomalies coincident with modelled Airborne Electromagnetic (AEM) conductor plates and strong MMI copper anomalism in an area of structural complexity.

[1]DES ASX Announcement: Acquisition of High-Grade Rare Earths Project in the NT (29th May 2024)

Fenton South geophysical surveys

- Zonge has completed three loops of the ground FLEM survey at Fenton South (Figure 1).
- The gravity data indicates a 1mgal residual gravity anomaly coincident with the Fenton South AEM anomaly and slightly offset from a moderate intensity magnetic anomaly that potentially defines the core of a fold (Figure 4).
- The eastern margin of the Fenton South gravity anomaly is bounded by a strong gravity gradient that is interpreted to be correlated to the mineralised FSZ.
- The coincident gravity and AEM anomalies at Fenton South present an outstanding untested drill target for the Company's upcoming drill campaign.
- The Company has been awarded a $160,000 Resourcing the Territory Grant for Fenton South with details of the drilling program to be announced upon completion and collation of the new ground geophysical data.

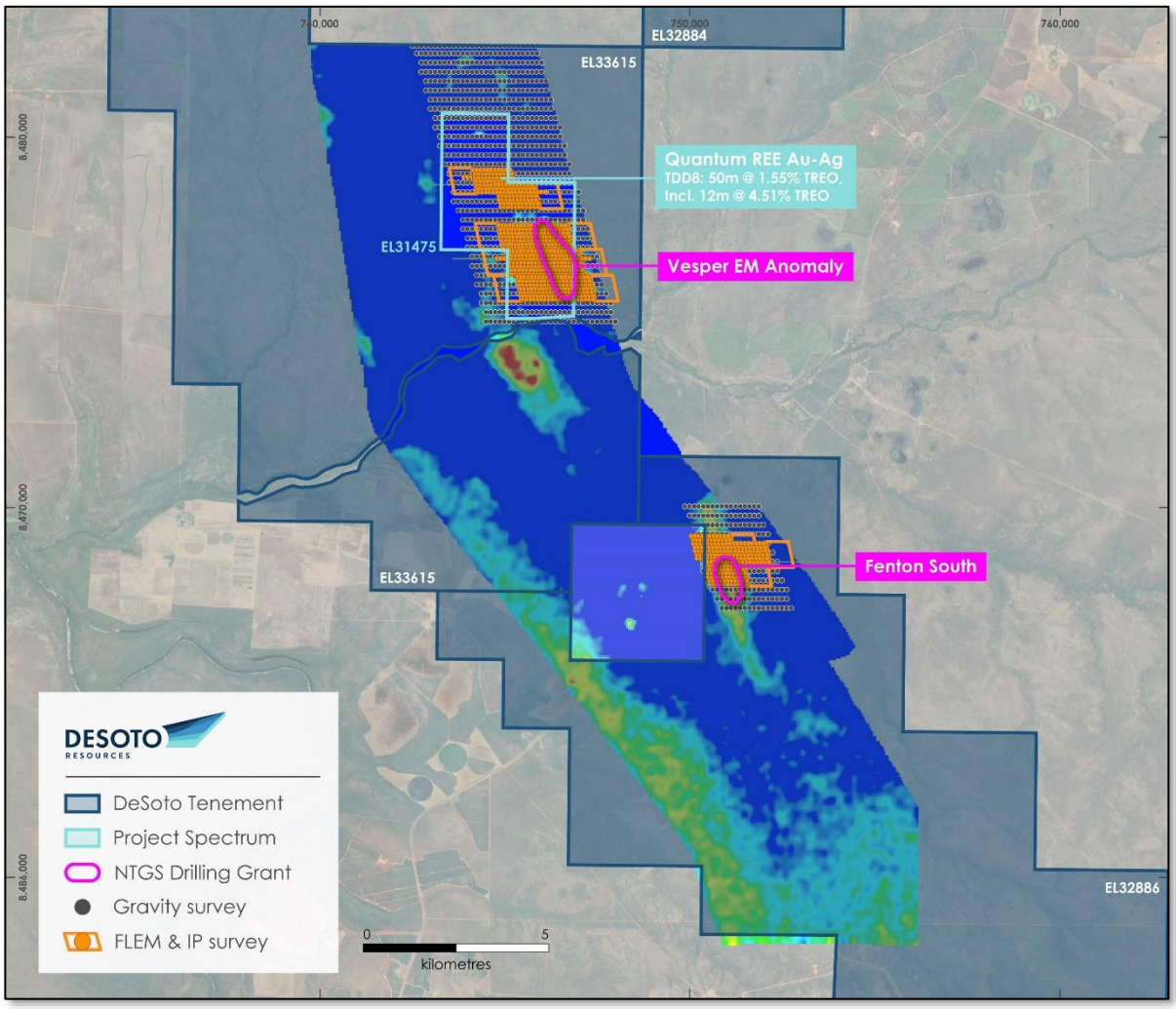

Figure 1 – Fenton South and Spectrum Project locations.

Next Steps

- At Spectrum, ground Fixed Loop Electromagnetic (FLEM) survey is ongoing across Quantum and Vesper targets to be followed by a ground Induced Polarisation (IP) survey.
- At Fenton South the company is planning a MMI soil geochemical survey to further generate and refine existing targets and assist with geological interpretations.
- IP surveys will then be collected to further refine conductor targets generated from the FLEM surveys and to assist with geological interpretations.
- Drill permitting is underway with approvals expected in August pending finalisation of the NT Government's new drilling permitting process.

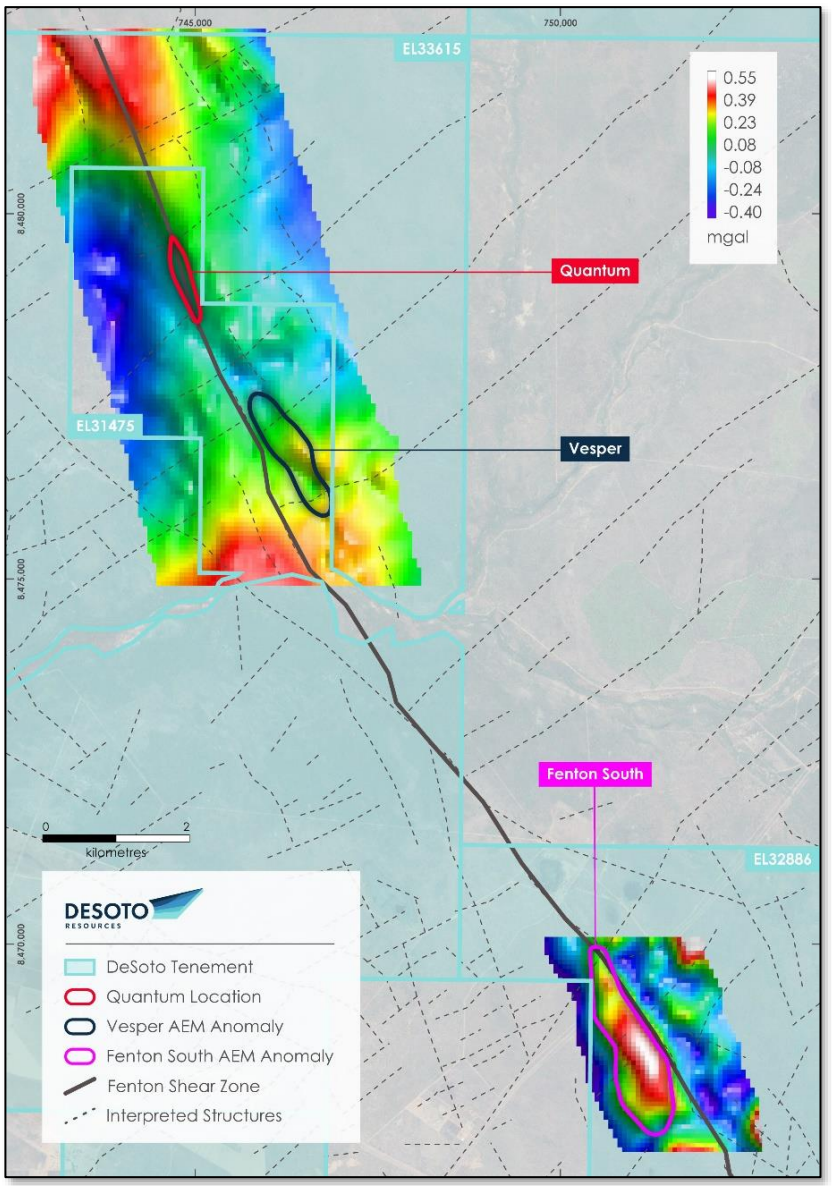

Figure 2 - Completed and modelled ground gravity data (in mgal) with AEM anomalies and interpreted structures.

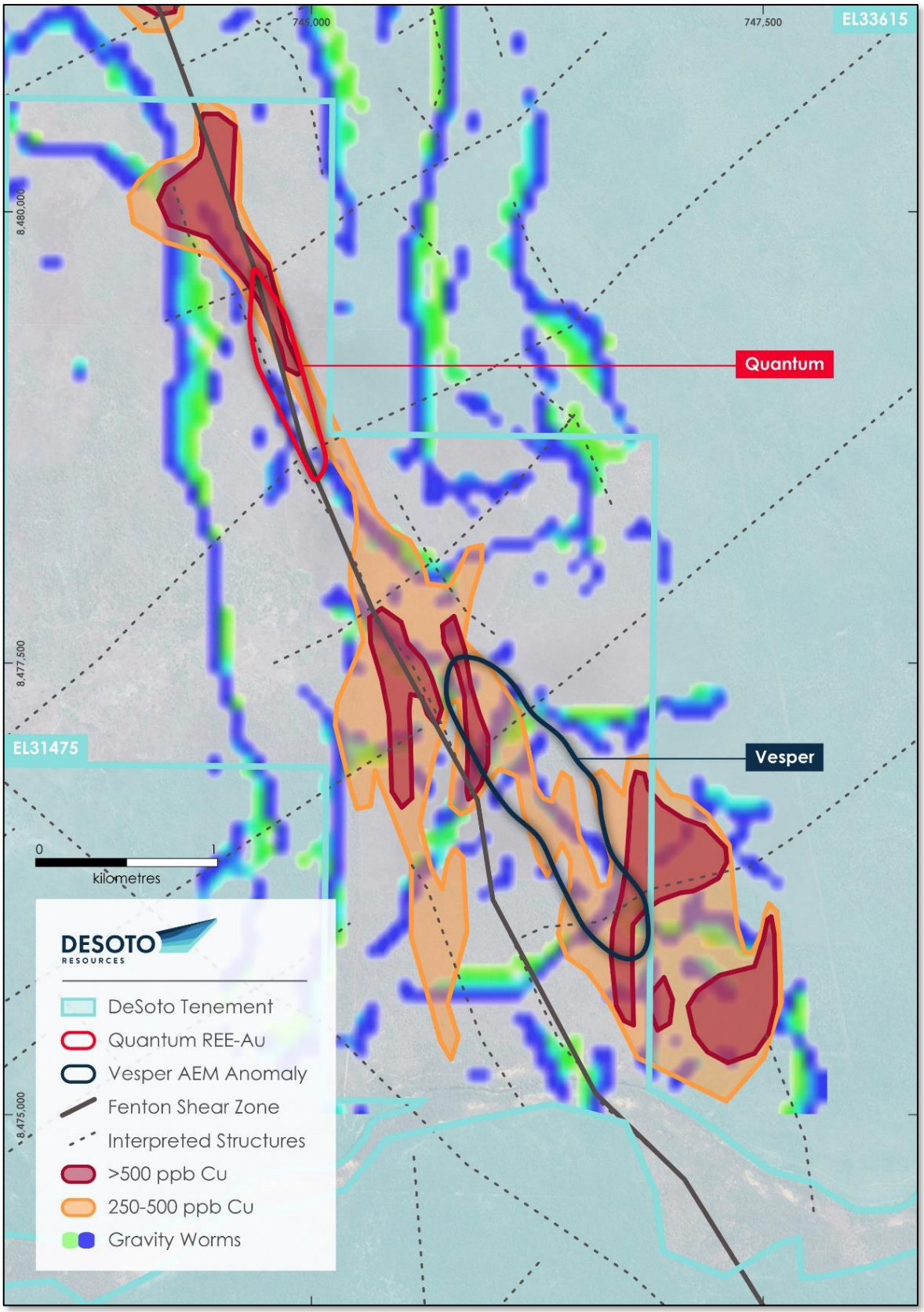

Figure 3 – Preliminary "worming" of the gravity data showing location of the FSZ, Quantum REE-Au mineralisation and the Vesper AEM anomalies along with the MMI Cu soil anomaly. Note the strong correlation between the FSZ and the MMI Cu anomaly.

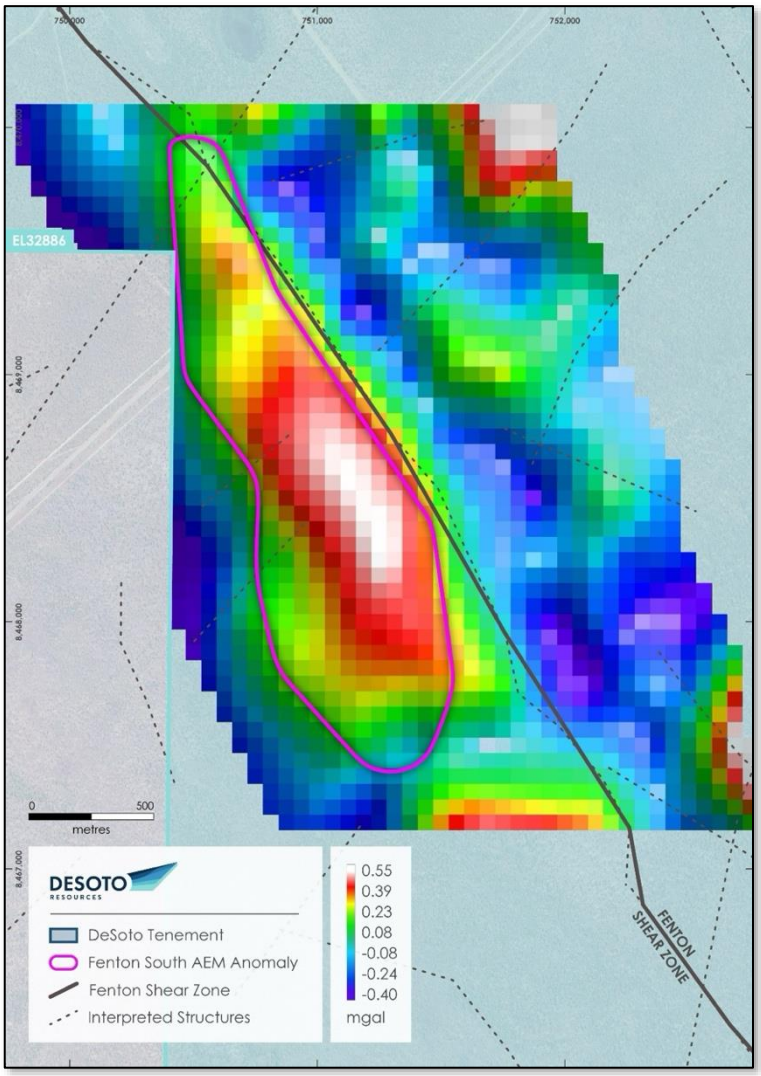

Figure 4 – Gravity contour data and major structures at Fenton South showing the coincident gravity (in mgal) and AEM anomaly.

Discussion and context

Geophysics, and its interpretation, plays a critical role in mineral discoveries for projects under cover such as Spectrum and Fenton. DeSoto has employed gravity and aeromagnetic gradients ("worms") to guide the Company's under-cover interpretation, integrated with the mapping of key faults and structures (Figure. 5).

Longer faults typically have deeper roots and can be more mineralised or provide pathways for mineralising fluids to focus along. Hence, a proxy for deep faults is the inferred strike length. DeSoto's analysis highlights long NNW-SSE trending structures along the structural grain of the basement and a series of intersecting NE-SW faults.

These cross-cutting structures control the emplacement of Cullen Suite granitoids and can localise Uranium and Gold occurrences, such as along the Hayes Creek Fault (HCF) zone.

The SW extension of the HCF towards the FSZ was identified by DeSoto as a high priority regional scale fault intersection target in the first instance. Fault intersections are targeted as being areas of structural complexity, fluid flow and mineralisation.

DeSoto is undertaking a comprehensive grid-based gravity program to better define structural features in the basement that will assist in targeting at both Vesper and Quantum targets. This data combined with Fixed Loop Ground Electro-Magnetic (FLEM) surveys will better define drill targets.

The preliminary assessment and modelling (worming) of new acquired gravity data supports DeSoto's analysis that the FSZ is an important conduit for mineralising fluids and that cross-cutting faults.

The gravity data at Fenton South is showing a discrete gravity high that coincides with the AEM anomaly and possibly defines the core of a fold. The gravity and AEM anomaly are located on the western side of the FSZ with a strong gravity gradient from the west to east side of the FSZ. The gravity and AEM anomaly appear to be truncated to the south by a fault. The FLEM data recently acquired over Fenton South will be used to further define drill targets at Fenton South.

The gravity data at Spectrum is showing that the FSZ has a strong gravity gradient and that the FSZ marks a step in the basement with the east side of the FSZ significantly higher than the western side.

Both the Quantum REE-Au mineralisation and Vesper AEM and Cu anomaly are located in the east side of the FSZ. The historical MMI Cu soil anomaly is strongly coincident with the FSZ as defined by the gravity data. The Vesper AEM and Cu anomaly is associated with a major step in the basement and the intersection of the FSZ with the HCF. The FLEM data being acquired over the Spectrum Project will be used to further define the drill targets at Quantum and Vesper.

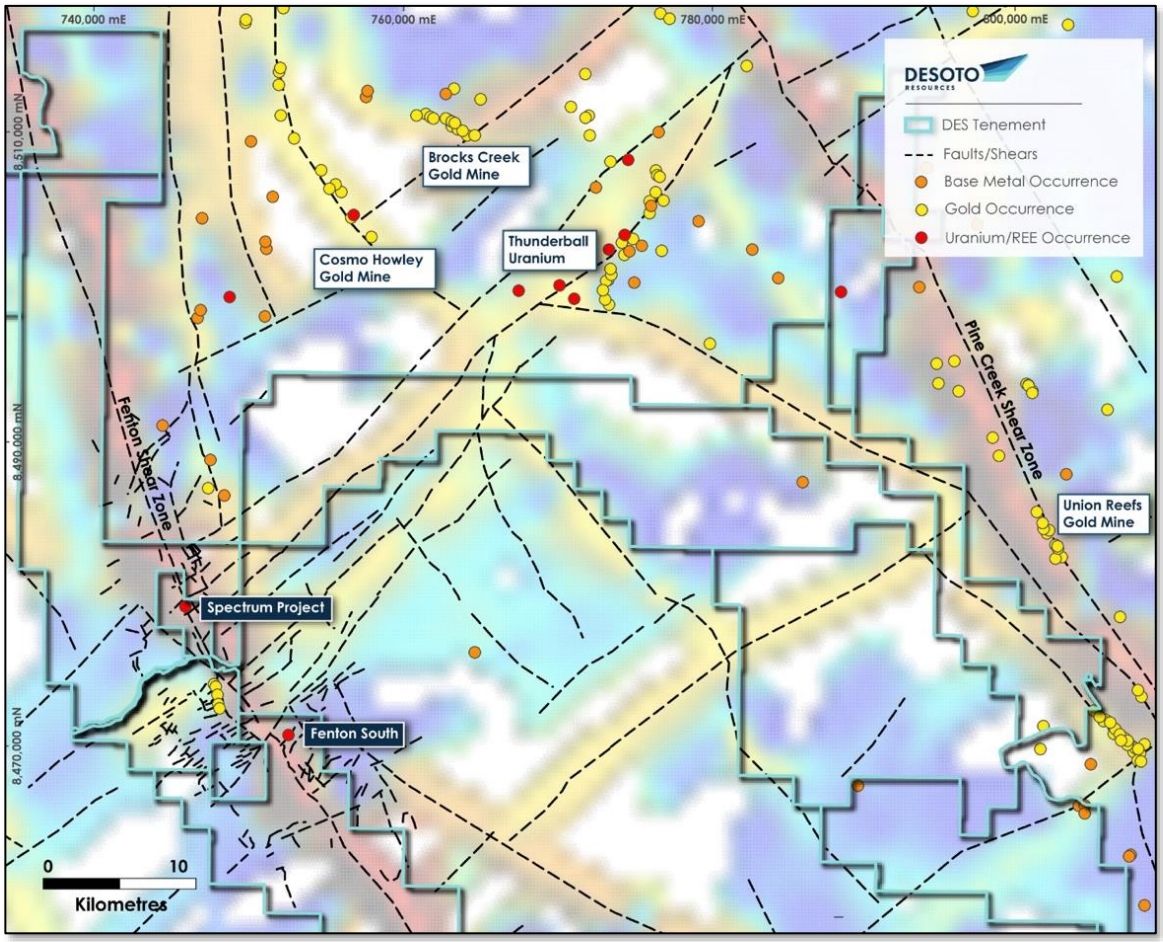

Figure 5 - Regional structural setting of the Spectrum Project at the intersection of the Fenton Shear Zone and the Hayes Creek Fault Zone and locations of known gold, base metal and uranium+/-REE mineralisation. The underlying colour image is of interpreted fault length (longer faults shown as warmer colours). This highlights long and by inference deep structures. The fault length image is derived from integrated interpretation of magnetic, gravity and mapped fault data sets.

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This release is authorised by the Board of Directors of DeSoto Resources Limited.

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COMPETENT PERSONS STATEMENT

The information in this report that relates to exploration results is based on and fairly represents information and supporting documentation prepared by Mr Nick Payne.

Mr Payne is an employee of the company, is a member of the Australian Institute of Geoscientists and has sufficient experience of relevance to the styles of mineralisation and types of deposits under consideration, and to the activities undertaken to qualify as Competent Persons as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Payne consents to the inclusion in this report of the matters based on this information in the form and context in which they appear.

CAUTIONARY STATEMENT

DeSoto advises that it is not aware of any new information or data that materially affects the previous exploration results contained in this announcement and all material assumptions and technical parameters underpinning the results continue to apply and have not materially changed.

TABLE 1 – JORC CODE – DRILLING & GEOPHYSICS

Section 1: Sampling Techniques and Data

Criteria	JORC Code Explanation	Commentary
Sampling Technique	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 downhole 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.	Ground Gravity Geophysical Survey - A ground gravity geophysical survey was undertaken from July 11 to July 21, 2024 by Atlas Geophysics Pty Ltd, an independent geophysical contractor. - The survey used the following equipment: One CG05 Autograv Gravity Meter One CHCi70+GNSs Rover Receiver One ESVE300PRO GNSS Receiver
Drilling	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).	This release has no reference to previously unreported drill results.
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.	This release has no reference to previously unreported drill results.
Logging	Whether core and chip samples have been geologically and geotechnical 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/Trench, channel, etc) photography. The total length and percentage of the relevant intersections logged.	This release has no reference to previously unreported drill results.
Sub-Sampling Technique and	If core, whether cut or sawn and whether quarter, half or all core taken. If non-	This release has no reference to previously unreported drill results.

Sample Preparation	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.	
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.	Ground Gravity Geophysical Survey - A ground gravity geophysical survey was undertaken from July 11 to July 21, 2024, by Atlas Geophysics Pty Ltd, an independent geophysical contractor. - A total of 881 gravity stations on a 500m x 125m grid were acquired. - A total of 3% of gravity stations were repeated. - Data QAQC was completed by the acquisition contractor and verified by an independent consultant geophysicist using industry standard Maxwell software. - Data QAQC showed that the obtained data is of good quality. - Processing of the data was completed by an independent consultant geophysicist using industry standard Maxwell and Windisp software. - This release has no reference to previously unreported drill results, sampling, assays or mineralisation.
Verification of Sampling and Assaying	The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes The verification of significant intersections by either independent or alternative company personnel. Discuss any adjustment to assay data	Gravity data QAQC was completed by the acquisition contractor and verified by an independent consultant geophysicist. This release has no reference to previously unreported drill results, sampling, assays or mineralisation.
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 coordinate system used is GDA94 MGA Zone 52S coordinates. Garmin handheld GPS was used to locate gravity acquisition stations. km = kilometre; m = metre; mm = millimeter; mgal = milligal; msec = milliseconds
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	Ground Gravity Geophysical Survey - A total of 881 gravity stations on a 500m x 125m grid were acquired - This data spacing is sufficient to establish geological continuity over the surveyed areas - No compositing of gravity data stations has been applied.
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.	Ground Gravity Geophysical Survey - This gravity station lines were approximately perpendicular to magnetic gradients that define the targeted FSZ. - This is considered to be unbiased.

	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.	
Sample Security	The measures taken to ensure sample security	This release has no reference to previously unreported drill results.
Section 2 Reporting of Exploration Results		
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.	The Pine Creek Project comprises nine contiguous exploration licences (EL31356, EL32148, EL31899, EL32884, 32886, EL33188-33189, EL33225 and EL33615 (amalgamation of EL32885 and EL33450) covering an area of 1,565 km^2. The licences are held by Mangusta Minerals Pty Ltd, a 100% owned Desoto subsidiary. The Spectrum Project is held by CopperOz Pty Ltd and sits within exploration license EL31475 which is wholly enclosed within DeSoto exploration license EL33615. The Project is located approximately 150 km south of Darwin, and 8 km north of Pine Creek in the Northern Territory. Access to the Pine Creek Project is from the sealed Stuart Highway Hayes Creek via the sealed Dorat Road and Oolloo Roads and then via well maintained gravel roads.
Exploration Done by Other Parties	Acknowledgment and appraisal of exploration by other parties.	The majority of past exploration work within the Project area (including drilling, surface sampling; geophysical surveys, geological mapping) has been largely completed by Homestake Gold of Australia, North Mining, Newmont Australia, St George Mining Pty Ltd, Aztec Mining Ltd, AngloGold Australia, Davos Resources and Thundelarra Exploration The relevant reports are available on the Northern Territory Geological Survey GEMIS open file database library. A summary of previous work completed can be found in the company prospectus at www.desotoresources.com
Geology	Deposit type, geological setting and style of mineralisation.	The Project is located in the western and central sections of the Central Domain of the Pine Creek Orogen and comprises units of the Cosmo Supergroup which include the South Alligator Group, and Finniss River Group. The stratigraphic sequences are dominated by mudstones, siltstones, greywackes, sandstones, tuffs, and limestones. These sedimentary units, as well as basic intrusions, were folded, metamorphosed, and then subsequently intruded by the Cullen Batholith. Pegmatites occur throughout the region in close proximity to the Cullen Granites. The Pine Creek Project is considered prospective for orogenic Pine Creek gold mineralisation and pegmatite hosted lithium (spodumene) mineralisation. The majority of known gold deposits are hosted by the South Alligator Group and the lower parts of the Finniss River Group along anticlines, strike-slip shear zones and thrusts proximal to the Cullen Granite.
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	This release has no reference to previously unreported drill results.

	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 (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.	This release has no reference to previously unreported drill results.
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').	This release has no reference to previously unreported drill results.
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.	This release has no reference to previously unreported drill results. Diagrams including plan maps, perspective and section views are provided with this report.
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.	The company believes this announcement is a balanced report, and that all material information has been reported.
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.	Exploration work by previous explorer for lithium is minimal and has largely been of a preliminary or reconnaissance nature. The Company is aware of regional scale aeromagnetic surveys and geological mapping programmes undertaken by past explorers and has access to versions of the data that is available in reports. Surface soils, rock chip sampling and reconnaissance drilling programmes have been undertaken over many parts of the Project area but is not lithium specific. This has not been fully compiled by the Company as yet.
Further Work	The nature and scale of planned further work (eg tests for lateral 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.	Planned further work includes drill testing of selected target areas. These targets have been selected based on IP, EM, magnetic and structural data.